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STEAM NAVIGATION, COMMERCE, FINANCE,

INSURANCE, BANKING, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, APRIL 16, 1859.

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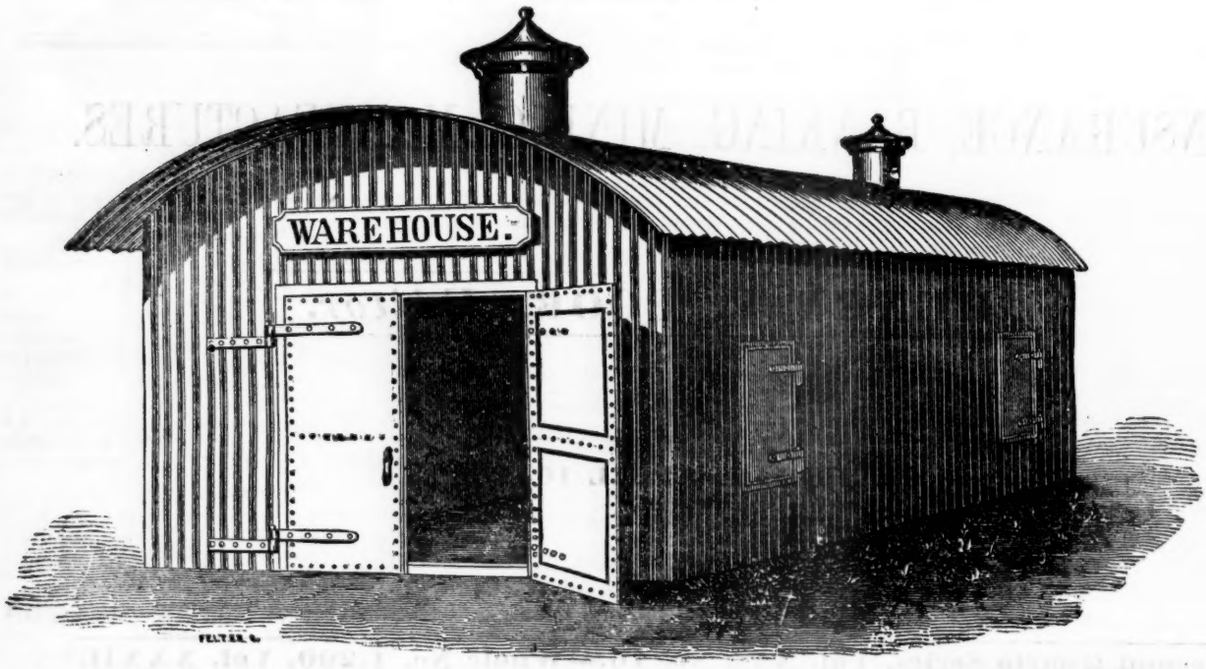

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO. No. 9 SPRUCE ST.

New York, Saturday, April 16, 1859.

Little Miami and Columbus and Xenia R. R.

Since the 30th of November, 1853, these roads have been worked together, as one, under the direction of one superintendent, appointed by the concurrent action of both boards of directors, subject to the supervision of a joint committee of four, composed of two members from each board, and removable by a two-third vote of the directors of either company. The entire equipment of the roads is held by the companies in common; each owning in the same proportion as the capital stock of each bears to the aggregate capital of both companies. All the earnings and income of each road derived from transportation, rents, franchise, etc., etc., are added together; and after deducting therefrom the current expenses of operating, including repairs, renewals, interest, etc., (and if required an appropriation to renewal fund, or sinking fund for the future payment of debts,) the residue is applied first to the payment of dividends, which are at all times to be equal, and the surplus, if any, divided between the two companies, or otherwise disposed of as the two boards shall elect. In 1856, these companies adopted the plan of issuing one joint annual report, covering the operations of both roads, with separate statements of the assets and liabilities of each, together with a balance sheet of the joint accounts of both companies.

In the Third Annual Report of these companies for the fiscal year ending November 30th, 1858, the revenue from operations of both lines are stated as follows, viz:

From passengers		$532,673 03
" freight		614,658 29
" mails and express		53,167 97
		$1,200,499 29
And the attendant expenses were:		
Repairs of cars	$68,583 79	
" " engines	59,031 92	
" " road	107,223 66	
" " bridges	2,817 65	
" " depots, etc,	13,966 41	
Transportaion expenses	218,642 27	
Fuel	77,736 61	
Oil, tallow and waste	11,270 70	
Taxes	10,158 84	
Loss and damage	9,818 13	
Rent, stationery, etc	10,144 20	
		589,394 18
Leaving as net earnings		$611,105 11
To which, add dividends on C. & X. stock		43,270 75
Total		$654,395 86
Deduct interest	$105,838 75	
Payments belonging to previous years	36,170 28	
		142,009 03
Net profits		$512,386 83

The Little Miami Company's proportion of net profits being $341,591 22; and the Columbia and Xenia company's proportion, $170,795 61.

The gross earnings were $37,336 70 in advance of those of 1857; while the net income exceeded that of the previous year in the sum of $77,205 70. Although the gross income from the transportation of passengers and mails was $77,353 23 less than that received from freight traffic, the net revenue from the former, during the same time, exceeded that from the latter by $47,751 83. This is attributable to the unnecessarily heavy burdens imposed upon the freight traffic by the unwise system of competition prevailing among the railroad companies of the country,

The assets and liabilities of the joint company are as follows:

ASSETS.

Rolling stock	$742,613 03
Materials, including ties, chairs, spikes, rails, fuel, etc	156,036 95
Col. and Xenia railroad stock	38,400 00
" " " " bonds	96,000 00
Cash in hands of Treasurer of Little Miami company	107,389 22
Cash in hands of Treasurer of Columbia and Xenia company	19,117 86
Cash in hands of paymaster	185 76
Bills receivable	6,272 00
Due from agents	29,478 69
" " transportation companies	47,091 37
" " individuals	33,385 33
" " P. O. department	10,674 51
Cash	$1,286,644 72

LIABILITIES.

Bills payable	13,600 97
Little Miami railroad stock account	785,817 62
Columbia and Xenia railroad stock account	392,908 82
Columbia and Xenia railroad current account	40,776 41
Due to transportation companies	42,830 59
" " agents	1,709 20
" " individuals	9,001 11
	$1,286,644 72

The assets and liabilities of the Little Miami railroad company are as follows:

ASSETS.

Construction	$2,809,435 47
Real estate and depots	641,744 00
Columbia and Xenia railroad stock	425,650 00
Hillsboro' and Cin. stock	9,262 83
S. Mt. V. and Pittsburg stock	4,000 00
Sundry stocks	6,290 00
Individual accounts	25,978 77
Interest of this company in the joint property of both companies	785,817 62
Bills receivable	958 84
	$4,709,137 53

LIABILITIES.

Capital stock	$2,981,293 12
Loan from City of Cincinnati	100,000 00
Loan of 1851, in bonds	7,000 00
" " 1853, " "	1,292,000 00
Dividends unpaid	34,196 61
Profit and loss	294,647 80
	$4,709,137 53

The account with the stockholders is as follows:

Surplus December 1, 1857	$320,328 66
Net earnings November 30, 1858	341,591 22
Interest on old debt collected	1,044 30
	$662,964 18
From which deduct—	
Dividend, Dec. 1857	$149,064 66
" June 1858	119,251 72
Charged to depreciation	100,000 00
	368,316 38
Surplus December 1, 1858	$294,647 80

COST OF ROAD AND EQUIPMENT.

Construction	$2,809,435 47
Real estate and depots	641,744 00
Proportion of equipment	495,075 35
Total	$3,946,254 82

The assets and liabilities of the Columbus and Xenia railroad company are as follows:

ASSETS.

Construction	$1,355,148 53
Real estate	21,101 46
Interest of this company in the joint property of both companies	392,908 82
L. M. & C. & X. current account	21,658 57
Bills receivable	20,525 13
Individual accounts	21,567 41
Central Ohio railroad stock	60,000 00
Interest on same	19,684 06
C. and X. stock held in trust	17,050 00
" bonds "	12,000 00
Telegraph stock	2,000 00
D. X. and B. stock	1,000 00
Springfield and Columbus stock	1,000 00
Cash in hands of treasurer	19,895 44
	$1,965,539 42

LIABILITIES.

Capital stock	$1,490,800 00
Mortgage bonds due May 1, 1859	18,000 00
Dividend " " Dec. 1, 1860	68,500 00
" " " June 1, 1866	68,400 00
" " " Dec. 1, 1861	69,600 00
" " " Dec. 1, 1862	66,200 00
Bills payable	50,500 00
Unpaid interest	15,048 95
Unclaimed dividends	2,273 97
Individual accounts	507 28
Surplus	115,709 22
	$1,965,539 42

The account with the stockholders is as follows:

Surplus December 1, 1857	$127,860 39
Net earnings November 30, 1858	170,795 61
Profit and loss	1,225 22
	$299,881 22
From which deduct—	
Dividend Dec. 1857	$74,540 00
" June 1858	59,632 00
Charged to depreciation	50,000 00
	184,172 00
Surplus December 1, 1858	$115,709 22

COST OF ROAD AND EQUIPMENT.

Construction	$1,355,148 53
Real estate	21,101 46
Proportion of equipment	247,537 68
Total	$1,623,787 67

The equipment of the road consists of 39 locomotives; 32 passenger cars; 16 baggage, mail and express cars; and 586 freight, stock, gravel and hand cars. The number of miles run by engines was 637,835; by passenger cars, 1,472,346; by freight cars of all kinds, 4,372,102. The number of passengers, ticketed to and from foreign points, carried over the whole road, was 94,500; do., carried over parts of the road, 43,187; the number of local passengers carried over the whole road, was 13,538; do over portions of the road, 159,082—total, 310,307. The number of passengers carried one mile was 19,707,049. Average income per capita, without regard to distance, $1,-70.6. Do per capita per mile, $2,69. The number of tons of through freight to and from foreign points was 152,683; do. local freight over the whole road 15,950; do., do., over parts of the road, 137,442—total, exclusive of express matter, 306,-075. The number of tons carried one mile was 25,209,872. Average income per ton of all classes, without regard to distance, $2, 00.8. Do., per ton per mile, 2.43 cents.

The length of main line, Little Miami railroad is 83.5 miles; second track, 21.32; side track, 16.53. Length of main line Columbus and Xenia railroad, 54.5 miles; side track, 10.83.

OFFICERS OF THE LITTLE MIAMI RAILROAD.

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ROBERT NEIL, *President.*
JOHN DURAND, *Superintendent.*
CYRUS FAY, *Secretary and Treasurer.*

The Victoria Bridge.

The work on this great structure across the St. Lawrence at Montreal, has been in progress during the winter, and it is supposed that it will be completed within the present year. About a week ago, the last central tube, 330 feet in length, was raised to its position on the stone piers. The Portland *Argus* gives the following discription:

There are many facts of curious interest connected with the erection of this tube, which are probably unknown to most of our readers. The river closed in December, and made several shoves. It was only until January that the ice became thick and firm enough to bear the enormous weight which it was to sustain. At this period an enormously heavy wooden bridge, or stage it may be more properly called, was built on ice directly under the iron tube to be erected. On this stage was set up a large stationary steam engine for the purpose of hauling up the materials to be used in its erection, on a temporary railway, also built on the surface of the ice. The iron tube was commenced in its centre, progressing from the centre towards the end day by day. This tube is of immense size and great weight; much greater than the other tubes of the bridge, they being 242 feet long, 16 feet wide, and graduated to the shore ends to 19 feet high; while the great centre tube is 330 feet long, 16 feet wide, and 22 feet high, and about 60 feet above the summer level of the river, thus allowing steamers to pass under it.

Finances of New Orleans.

From July 1st, 1858, to January 1st 1859, the receipts from all sources, were $645,781 39. The 1st of July, 1858, the balance in the Treasury was $421,315 38, making a sum total, when added to the receipts after that date, of $1,067,100 77. The expenditures during the same period were $1,065,-076 57, leaving a balance on hand, on the 1st of January, 1859, of $2,024 34.

It is estimated that the receipts from ordinary sources between January 1st and July 1st of the present year, will fall short of the estimated expenditures for the same time by $136,948 30—the former being $784,724 20 and the latter $921,672-50.

Among the estimated expenditures for the current six months are $168,655 for the Street Department; $133,800 for Public Schools, and $128,-970 for the Police. The sum of $216,867 was expended upon the streets during the six months ending January 1st, 1859.

Railroads of New Jersey.

Statement showing the cost, debts, earnings, expenses, etc., etc.. of the Railroads and Canals of New Jersey, for 1858.

Names of Company.	Length in miles.	Capital paid in.	Funded Debt.	Other Debt.	Cost.	Earnings.	Expenses.	Net Earnings.	Rate of Div'd's.	Receipts from Passengers.	Receipts from Freight.	Do. Miscellaneous.
Camden and Amboy	98	$2,298,400	$8,567,800	.....	$5,376,765	$1,640,328	$874,168	$766,160	8	$1,052,773	$522,120	$55,434
Delaware and Raritan Canal	..	1,500,000		.....	3,909,076	454,109	174,065	280,043	8	454,108	.....	.....
New Jersey Central	64	2,000,000	3,000,000	$405,920	5,574,323	836,934	345,613	491,320	..	171,829	649,505	15,598
New Jersey Railroad and Transportation Comp'y.	34	3,749,000	711,420	.....	4,787,149	903,458	249,370	654,088	10	664,403	78,066	179,989
Morris and Essex	51	1,157,805	340,000	259,114	1,610,294	231,223	136,703	94,520	..	134,023	90,025	7,173
Paterson and Ramapo	15¼	248,225	100,000	1,200	350,000	26,500	5,383	21,117	5½	.....	.....	.....
Freehold and Jamesburg	11½	168,234	20,000	8,749	220,666	36,471	18,587	17,884	..	15,231	20,666	57,200
Millstone and New Brunswick	6½	102,365	.....	712	111,114	7,871	4,576	3,295	..	2,860	5,010	.....
Warren Railroad	18	968,000	600,000	439,085	1,568,713	193,240	96,620	96,620	5¼	13,549	177,489	2,253
Camden and Atlantic	60	656,635	1,006,800	56,667	1,787,970	133,222	75,258	57,965	..	91,397	39,004	2,819
Flemington Railroad and Transportation Comp'y.	12	150,000	91,000	.....	297,666	13,143	11,739	1,404	..	5,330	7,213	600
Sussex Railroad	12	175,746	200,000	.....	375,746	30,941	21,812	9,129	..	.....	.....	.....
Burlington and Mount Holly	6	87,500	20,000	.....	120,000	20,444	14,411	6,033	5	13,839	6,088	515
Belvidere Delaware	64	1,100,000	2,036,000	3,173,265	224,303	131,220	93,083	..	18,993	131,518	23,790	
Morris Canal and Banking Company		2,066,300	531,439	.....	2,589,869	274,650	112,486	162,220	5	.....	.....	.....
Paterson and Hudson River	13½	630,000	.....	.....	630,000	53,400	.....	53,400	4	274,650	.....	.....
Newark and Bloomfield	6	103,880	.....	.....	101,627	12,346	10,400	1,946	..	12,346	.....	.....
Totals	.....	$17,162,098	$17,224,459	$971,447	$31,582,195	$5,092,583	$2,276,371	$2,698,216	....	$2,710,681	$1,801,305	$345,371

TREATISE
ON THE
PRINCIPLES of CIVIL ENGINEERING
AS APPLIED TO THE
CONSTRUCTION of WOODEN BRIDGES.

By S. S. Post, *Civil Engineer,*
And late Chief Engineer of the N. Y. & Erie R. R.

(Continued from p. 229.)

TABLE III.

The subjoined tabular statement will show the strength of different kinds of timber. The last column (**A**) represents the weight in pounds that applied at the centre will break a piece one foot long and one inch square, supported at both ends:

Kind of Material.	Specific Gravity.	Length in feet.	Breadth in inches.	Depth in inches.	Breaking Weight in lbs.	Value of **A**.
Alder	0.555	2.5	1	1	212	530
Ash	0.753	2.5	1	1	314	785
Beech	0.690	2.5	1	1	271	677
Birch	0.720	2.5	1	1	207	517
Chestnut	0.875	2.5	1	1	180	450
Cedar	0.486	2.5	1	1	165	412
Elm	0.544	2.5	1	1	216	540
Fir, Riga	0.610	4.0	3	3	4,530	670
Mahogany	0.853	2.5	1	1	170	425
Oak, young	0.863	2.0	1	1	482	964
Do. old	0.625	2.0	1	1	218	436
Pine, southern	0.872	7.1	2½	5½	9,237	788
Do. white Am.	0.455	7.1	2½	5½	5,189	443
Do. Weymouth	0.460	2.0	1	1	329	658
Do. red	0.544	4.0	3	3	3,780	560
Do. yellow	0.439	4.0	3	3	2,756	410
Spruce, Am. white	0.490	7.1	2½	5½	5,646	482
Poplar, Lomb'y	0.374	2.5	1	1	131	327
Sycamore	0.590	2.5	1	1	214	535
Walnut, green	0.920	2.5	1	1	195	487
Willow	0.405	2.5	1	1	146	365

The authorities for the strength of the various kinds of wood used are Ebbels, Tredgold, Fincham, and Totten.

§ 32. Timber never should be subjected to strains sufficient to occasion fracture; when a weight is laid on a beam, between the points of support, it produces a bending or deflection of the beam, more or less.

When the beam bends considerably, it is said to be *flexible;* but if in a very slight degree, it is said to be *stiff.*

§ 33. The *stiffness* of beams is the resistance they offer against being *deflected,* or bent, by a given weight, without being broken: and depends, as in the case of ultimate strength,—upon the different circumstances of *length, breadth and depth.* It is ascertained by experiment, and measured by the deflections, or spaces, through which they are bent under given weights.

§ 34. The *deflection* of beams, is as the cube of their lengths; and the *stiffness* inversely in the same proportion.

p. Among the numerous experiments of Prof. Barlow, are the following upon pieces of fir 3 inches deep and 1½ inches thick, supported by props at various distances apart.

Experiments with weight No. 1.

Props 9 feet apart—Deflection ..... $\frac{27}{40}$ of an inch.
" 6 " " " ..... $\frac{9}{40}$ " " "
" 3 " " " ..... $\frac{1}{40}$ " " "

Now 27, 8 and 1 are exactly proportional to the cubes of 9, 6 and 3 respectively.

Experiments with weight No. 2.

Props 9 feet apart—Deflection .... $\frac{40\frac{1}{2}}{40}$ of an inch.
" 6 " " " .... $\frac{12\frac{1}{2}}{40}$ " " "
" 3 " " " .... $\frac{1\frac{1}{4}}{40}$ " " "

Experiments with weight No. 3.

Props 9 feet apart—Deflection .... $\frac{54}{40}$ of an inch.
" 6 " " " .... $\frac{16\frac{1}{2}}{40}$ " " "
" 3 " " " .... $\frac{2}{40}$ " " "

These results will be found, also, to agree, very nearly, with the rule stated, and leave no doubt of its correctness.

§ 35. The *deflection* of beams is inversely as the breadth; and the *stiffness* is directly as the breadth.

If the breadth of a beam be doubled, the deflection will be but one-half, and the stiffness will be doubled.

§ 36. The deflections of beams are inversely as the cubes of their depths. Of course their stiffness is directly as the cubes of their depths.

§ 37. The deflections of rectangular beams are inversely as their breadths multiplied by the cubes of their depths.

q. The general correctness of the three last propositions (§35, 36, 37) have been abundantly verified by experiment. The following by Prof. Barlow are selected for illustration.

A rectangular piece of fir of sufficient length, 2 inches by 1¼ inches lateral dimensions, was laid upon props three feet apart, and a weight of 120 lbs. applied at the middle, between the bearings. When the batten was laid so that the depth was 2 inches and the breadth 1¼ inches, the deflection was .10. When the depth was 1¼ inches, and the breadth 2 inches, the deflection was .18. Now $2\times2\times2\times1.5=12$; and $1.5\times1.5\times1.5\times2=6.75$. Then 12 : 6.75 : : .18 : .10125; a very slight variation.

§ 38. The *deflections* of beams, supported at both ends, *are as the deflecting weights.*

r. The fir battens 3 feet between supports, when 2 inches deep and 1¼ inch in breadth, were deflected .10 by 120 lbs. and .15 by 180 lbs. When 1¼ inches deep and 2 inches in breadth, they were deflected .16 by 120 lbs. and .24 by 180 lbs. These deflections are exactly in proportion to the weights.

§ 39. By the preceding sections (35, 36, 37, 38,) it is made to appear that the deflections of beams, are directly as the weights and cubes of their lengths:—and inversely as their breadths and cubes of their depths.

These particulars may be enunciated in one general rule, as follows:

The deflections of a beam are in proportion to the quotients arising from the *product of the deflecting weights, into the cube of the length,—divided by the product of the breadth into the cube of the depth.*

s. If a beam of New England white pine, 7.1 feet long, 5.5 inches deep and 2.75 inches broad, is bent 0.71 of an inch by 2,701 lbs.—what will be the deflection of a beam one foot long and one inch square, loaded with one pound?

The resolution of this question is stated thus:

$$\frac{7.1\times7.1\times7.1\times2{,}701}{5.5\times5.5\times5.5\times2.75}=2{,}113 : \frac{1\times1\times1\times1}{1\times1\times1\times1}=1 : : 0.71 : 0.000336$$

or, $\frac{(7.1)^3\times2.701}{(5.5)^3\times2.75} : \frac{1^3\times1}{1^3\times1}=1 : : 0.71 : 0.000336,$

which expressions are equivalent to each other, and give 336 one millionth parts of an inch of deflection for the result.

t. The converse of this last proposition will be to find the deflection of a beam of white pine 7.1 feet long, 5.5 inches deep and 2.75 inches in breadth, loaded in the middle with 2,701 lbs. The deflection of a beam one foot long, one inch square, and with one pound in the middle being 0.000336 of an inch.

Then by the general rule the question will be stated thus:

$$\frac{1^3\times1}{1^3\times1}=1 : \frac{(7.1)^3\times2{,}701}{(5.5)^3\times2.75}=2{,}113 : : 0.000336 : 0.71$$

or, more simply $\frac{(7.1)^3\times2{,}701}{(5\times5)^2\times2.75}\times0.000336=0.71$

equal to seventy-one one hundredths of an inch deflection in 7.1 feet, or one-tenth of an inch per foot.

§ 40. Timber subjected to a cross strain will always bend more or less. Generally, its elasticity will be injured by a strain producing a deflection of more than one-fortieth of an inch for each foot in length.—That is to say: a beam 40 feet long should not be subjected to a deflection of more than one inch,—a beam 20 feet long, half an inch, or a beam 10 feet long to a deflection of one-fourth of an inch.

u. Suppose a beam of southern pine 7.1 feet long, 5.5 inches deep and 2.75 inches in breadth, to be deflected $\frac{1}{40}$ of an inch per foot, or 0.177 of an inch, by 1,175 lbs., what will be the weight required to produce a deflection of $\frac{1}{40}$ of an inch, in a beam of the same material one foot long and one inch square.

Then by the general rule (§ 39) the solution is

$$0.177 : \tfrac{1}{40}=0.025 : : \frac{(7.1)^3\times1{,}175}{(5.5)^3\times2.75} : 130=\frac{1^3\times130}{1^3\times1}.$$

This expression may be very materially simplified; for 0.177 : 0.025 : : 7.1 : 1. Then the question may be stated thus: $7.1 : 1 : : \frac{(7.1)^3\times1{,}175}{(5.5)^3\times2.75} : 130$;

or dividing the first and third terms by 7.1 it will be, $1 : 1 : : \frac{(7.1)^2\times1{,}175}{(5.5)^3\times2.75} : 130$; or simply

$$\frac{(7.1)^2\times1{,}175}{(5.5)^3\times2.75}=130.$$

v. A beam of white pine of the same dimensions was deflected 0.177 of an inch, or $\frac{1}{40}$ of an inch per foot by a weight of 777 lbs.

What weight will be required to produce a deflection of $\frac{1}{40}$ of an inch in a beam, one foot long, and one inch square?

$$\text{Ans. } \frac{(7.1)^2\times777}{(5.5)^3\times2.75}=85.6 \text{ lbs.}$$

The relative stiffness of southern pine to white pine is, therefore as 130 to 85.6.

§ 41. By obtaining similar results for the several kinds of timber, a table may be constructed to show their relative stiffness and which would be useful in determining the weight required to

produce a deflection of $\frac{1}{10}$ of an inch per foot, in a beam of any given dimensions. The expression for this purpose would be $\frac{(5.5)^3\times2.75\times130}{(7.1)^2}=1{,}175$ for southern pine, and $\frac{(5.5)^3\times2.75\times85.6}{(7.1)^2}=777$ for white pine.

The form of expression may be still further modified, in this manner,—instead of multiplying by 130, divide by $\frac{1}{130}$ or 0.0077,—and instead of multiplying by 85.6 divide by $\frac{1}{85.6}$ or 0.01168. The expressions will then be—

$\frac{(5.5)^3\times2.75}{(7.1)^2\times0.0077}=1{,}175$ lbs. for southern pine and $\frac{(5.5)^3\times2.75}{(7.1)^2\times0.01168}=777$ lbs. for white pine.

These expressions may be generalized, so as to apply to any dimensions and weights, by substituting the letter B for the breadth of the beam, D for the depth, L the length, W the weight and C for the constant quantities, or fractions 0.0077, etc. D^3 will represent the cube of the depth of the beam, and L^2 the square of the length.

Then the general expression will be $\frac{D^3\times B}{L^2\times C}=W$; and this will be applicable to all kinds of timber, except that the value of C must be determined for each kind of timber and for each degree of deflection.

§ 42. On these principles tables have been arranged by Prof. Barlow, Tredgold, Col. Totten and other distinguished engineers, which are of great value to the practical carpenter.

TABLE IV.

Containing some results of experiments by Col. Totten on piece of wood of the dimensions given in Sections 39 *and* 40.

South'n Pine.	Spruce.	White Pine.	Kind of W'd.
0.872	0.490	0.455	Specific Gravity.
54.50	30.63	28.43	Weight of a cubic foot.
0.025	0.025	0.025	Deflections in parts of an inch to 1 ft.
0.050	0.050	0.050	
0.075	0.075	0.075	
0.100	0.100	0.100	
0.177	0.177	0.177	Whole deflection in inch.
0.355	0.355	0.355	
0.532	0.532	0.532	
0.710	0.710	0.710	
1,175	892	777	W'ght in lbs. prod'g defl'n.
2,218	1,613	1,485	
3,192	2,291	2,118	
4,111	2,966	2,701	
1,175	892	777	Difference for each divis'n on the scale of deflection.
1,043	721	708	
974	678	623	
919	675	593	
$C=0.0077244$	$C=0.0101751$	$C=0.0116811$	Const't quantity (C) in the expr'ss'n for stiffness $\frac{D^3\times B}{L^2\times C}=W$
$C=0.0040921$	$C=0.0056269$	$C=0.0061119$	
$C=0.0028434$	$C=0.0039617$	$C=0.0043056$	
$C=0.0022078$	$C=0.0030601$	$C=0.0033603$	

§ 43. It will be seen that the difference of the weights (Table IV.) diminish as the deflection increases beyond $\frac{1}{10}$ of an inch, indicating that the elasticity of the timber is somewhat impaired, and that the law of deflection, (§ 88), does not apply beyond that point.

TABLE V.

Containing results extracted from "Tredgold's Elementary Principles of Carpentry, with the constant quantity (C) determined for $\frac{1}{10}$ *of an inch deflection per foot.*

Kind of Timber.	Specific Gravity.	Length in feet.	Breadth in inch.	Depth in inches.	Deflection in inches.	W'ght produc'g deflection in lbs.	Constant quantity (C) in the expression for stiffness $\frac{D^3\times B}{L^2\times C}=W$.
Ash, medium quality	0.690	2.5	1	1	0.5	78.5	$C=0.0163$
Beech	0.688	7.	2	2	1.025	150.	$C=0.01277$
Birch	0.720	2.5	1	1	0.5	90.5	$C=0.0141$
Elm	0.540	7.	2	2	1.42	125.	$C=0.0212$
Fir, New England	0.560	7.	2	2	0.97	150.	$C=0.0121$
Maple	0.625	2.5	1	1	0.5	65.	$C=0.0197$
Oak, English	0.960	7.	2	2	1.275	200.	$C=0.0119$
Do. Canadian	0.867	7.	2	2	1.07	225.	$C=0.009$
Pine, Am. white	0.460	2.	1	1	0.5	237.	$C=0.0105$
Do. Pitch	0.712	7.	2	2	1.33	150.	$C=0.0163$
Do. Yellow	0.439	4.	3	3	0.37	1,680.	$C=0.0112$
Poplar, Lombardy	0.374	2.5	1	1	0.5	56.5	$C=0.0224$
Spruce, White Canada	0.465	2.	1	1	0.5	180.	$C=0.0138$
Sycamore	0.590	2.5	1	1	0.5	76.	$C=0.0168$
Walnut, green	0.920	2.5	1	1	0.5	62.	$C=0.020$

§ 44. To find the *depth* of a beam, the length, breadth and weight being given.—

Multiply together the square of the length, weight and the constant number for the kind of material; divide this product by the breadth, and take the cube root of the quotient for the depth.

w. This rule may be otherwise expressed, when the dimensions are as given in the preceding section (40), thus $\frac{(7.1)^2\times1{,}175\times0.0077}{2.75}=(5.5)^3$ for southern pine, and $\frac{(7.1)^2\times777\times0.01168}{2.75}=(5.5)^3$ for depth of white pine, or generally $\frac{L^2\times W\times C}{B}=D^3$ for all kinds of timber.

§ 45. To find the *breadth* of a beam, the other dimensions and the weight being given.—Multiply together the square of the length in feet, the weight in lbs., and the constant number for the kind of timber, and divide the product by the cube of the depth in inches.

x. This rule is otherwise expressed,—the dimensions being the same as before,—thus $\frac{(7.1)^2\times1{,}175\times0.0077}{(5.5)^3}=2.75=$ breadth for southern pine, and $\frac{(7.1)^2\times777\times0.01168}{(5.5)^3}=2.75=$ breadth for white pine; or generally

$$\frac{L^2\times W\times C}{D^3}=B.$$

§ 46. To find the *length* of a beam, the breadth, depth and weight being given.

Divide the product of the breadth into the cube of the depth, by the product of the weight into the constant number for the kind of timber, and the square root of the quotient will be the length in feet.

y. This rule—for the dimensions and weight before used—is expressed otherwise thus, $\frac{(5.5)^3\times2.75}{1{,}175\times0.0077}=(7.1)^2$ for southern pine, and $\frac{(5.5)^3\times2.75}{777\times0.01168}=(7.1)^2$ for white pine:

or generally $\frac{D^3\times B}{W\times C}=L^2$.

§ 47. The quantity of timber in a beam being given, the stiffness will be increased by increasing the depth. It may, however, be made so thin as to be liable to warp and break sideways: therefore, unless a beam be held in position by other means, there must be certain limits to the proportions of length and breadth which should not be exceeded. The rule adopted by Mr. Tredgold is—

Divide the length in feet by the square root of the depth in inches, and multiply the quotient by 0.6 *for the breadth in inches.*

EXAMPLE.

Suppose a beam 20 feet long and 9 inches deep—what should be its breadth by the above rule?

$\frac{20}{\sqrt{9}}=\frac{20}{3}$ and $\frac{20}{3}\times0.6=4$ inches.

§ 48. The deflection of a beam, when the weight is *uniformly distributed* throughout its length, is to its deflection with the whole weight applied at the centre, as 5 : 8, nearly; or more nearly as 19 : 30.

§ 49. For the purpose of further illustrating, and rendering more familiar, the principles which have been presented, relative to the strength and stiffness of beams, the following examples are introduced.

EXAMPLE 1.

If a stick of ash, 2.5 feet long, one inch deep and 1 inch in breadth, broke with 314 lbs. (Table III.); what weight will be required to break a stick of the same material, 1 inch square and 1 foot long.

(By § 21) $1 : 2.5 :: 314 : \frac{2.5\times314}{1}=785$ lbs.

What weight will be required to break the stick if 4 feet long?

(By § 21) $4 : 2.5 :: 314 : \frac{2.5\times314}{4}=196.25$.

EXAMPLE 2.

If a stick of alder, 2.5 feet long, 1 inch in breadth and 1 inch deep, broke with 212 lbs. (Table III.), what weight will be required to break a stick of alder, of the same length and depth, with a breadth of 2.5 inches?

(By § 22.) $1 : 2.5 :: 212 : 530$. Ans. 530 lbs.

EXAMPLE 3.

If a stick of beech, 2.5 feet long and 1 inch square, be broken with 271 lbs., (Table III.), what weight will be required to break a stick of the same material and depth, 4 feet long and 2 inches in breadth?

(By § 23.) $\frac{2.5\times271}{1}=\frac{4\times338.75}{2}$. Ans. 338.75 lbs.

EXAMPLE 4.

A stick of birch, 2.5 feet long, 1 inch deep and 1 inch in breadth, broke with 207 lbs.; what weight would have been required to break the stick, if it had been 2 inches deep, the other dimensions remaining the same?

(By § 24.) $1^2 : 2^2 :: 207 : 828$. Ans. 828 lbs.

In case the stick had been 3 inches deep—

$1^2 : 3^2 :: 207 : 1,863$, or $1 \times 1 : 3 \times 3 :: 207 : 1863$, or $1 : 9 :: 207 : 1,863$. Ans. 1,863 lbs.

EXAMPLE 5.

A stick of chestnut, 2.5 feet long, and 1 inch square, broke with 180 lbs.; what weight will be required to break a stick of the same length and kind of timber, 2.5 inches deep and 1.5 inch in breadth?

(By § 25.) $1 \times 1^2 : 1.5 \times (2.5)^2 :: 180 : 1,687.5$, or $\frac{180}{1 \times 1^2} = \frac{1,687.5}{1.5 \times (2.5)^2}$. Ans. 1,687.5 lbs.

EXAMPLE 6.

A stick of cedar, 2.5 feet long, 1 inch deep and 1 inch in breadth, broke with 165 lbs.; what weight will be required to break a stick of cedar, 5 feet long, 3 inches deep and 2 inches in breadth?

(By § 26.) $\frac{1 \times 1 \times 1}{2.5} : \frac{2 \times 3 \times 3}{5} :: 165 : 1,485$, or $\frac{2.5 \times 165}{1 \times 1 \times 1} = \frac{5 \times 1,485}{2 \times 3 \times 3}$. Ans. 1,485 lbs.

EXAMPLE 7.

Suppose the weight in the last case had been applied 6 inches from the centre of the stick.

(By § 27.) $2 \times 3 : 2.5 \times 2.5 :: 1,485 : 1,547$. Ans. 1,547 lbs.

EXAMPLE 8.

If the deflection of a yellow pine beam, 4 feet long, be .37 of an inch, (Table V.) with a weight of 1,680 lbs.; what deflection will the same weight produce on a beam, 10 feet long, of the same breadth, depth and material?

(By § 34.) $4^3 : 10^3 :: 37 : 5\frac{50}{64}$, or, $64 : 1,000 \times 0.37 : 5\frac{50}{64}$. Ans. $5\frac{50}{64}$ inches.

EXAMPLE 9.

A stick of elm, 7 feet long and 2 inches square, was deflected 1.42 inches by 125 lbs.; what would have been the deflection if the breadth had been 5 inches?

(By § 35.) $5 : 2 :: 1.42 : \frac{2 \times 1.42}{5} = .57$ of an inch.

EXAMPLE 10.

A mahogany stick, 2.5 feet long, 1 inch square, was deflected .5 of an inch by 118 lbs. Suppose its depth had been twice as great; how much would have been the deflection?

(By § 36.) $2^3 : 1^3 = 0.5 : 0.0625 = \frac{1}{16}$ of an inch.

EXAMPLE 11.

The deflection of a pitch pine stick, 7 feet long and 2 inches square, under a weight of 150 lbs., was 1.33 inches. What would have been the deflection, in case the stick had been 1 inch in breadth and 3 inches deep.

(By § 37.) $2 \times 2 \times 2 \times 2 = 16$, and $3 \times 3 \times 3 \times 1 = 27$.

Then $27 : 16 :: 1.33 : 0.79$ of an inch.

EXAMPLE 12.

If a deflection of one inch on a given beam be produced by a weight of 2,000 lbs.; what deflection will be produced by 875 lbs.?

(By § 38.) $2,000 : 875 :: 1 : .4375$ of an inch.

EXAMPLE 13.

A white oak beam, 7 feet long and 2 inches square, was deflected 1.275 inches by 200 lbs. How much will a beam, of the same kind of timber, 10 feet long, 6 inches deep and 3 inches in breadth, be deflected by a weignt of 2,000 lbs.?

(By § 39.) $\frac{7^3 \times 200}{2^3 \times 2} : \frac{10^3 \times 2,000}{6^3 \times 3} :: 1.275 : 0.92$.

Ans. 92 hundredth of an inch.

EXAMPLE 14.

What weight will a white pine joist, 15 feet long, 9 inches deep and 4 inches in breadth, sustain without injury to its elasticity; that is, with a deflection of only $\frac{1}{10}$ of an inch per foot?

(By § 41.) $\frac{9^3 \times 4}{15^2 \times 0.01168} = 1,109$ lbs. in the middle; or (By § 48.) 1,751 lbs. uniformly distributed.

What weight will a spruce joist, of the same dimensions. sustain without injury?

$\frac{9^3 \times 4}{15^2 \times 0.010175} = 1,273$ lbs. applied at the middle; or, 2,010 lbs. uniformly distributed.

If the joist be of Canadian oak?

$\frac{9^3 \times 4}{15^2 \times 0.009} = 1,440$ lbs. in the middle; or, 2,273 lbs. uniformly distributed.

If the joist be of southern pine?

$\frac{9^3 \times 4}{15^2 \times 0.0077} = 1,683$ lbs. in the middle; or, 2,657 lbs. uniformly distributed.

EXAMPLE 15.

A beam of English oak is wanted for 25 feet between bearings; the breadth to be 8 inches and to support one ton in the middle, without injuring the elasticity of the timber. What must be its depth?

The general expression is (§ 44. **W.**)

$$\frac{L^2 \times W \times C}{B} = D^3.$$

Therefore, $\frac{25^2 \times 2,000 \times 0.0119}{8} = 1,860 = (12.3)^3$.

Ans. The beam must be 12.3 inches deep.

EXAMPLE 16.

The space for a beam of pitch pine does not admit of its being more than 10 inches deep. The distance between bearings is 18 feet, and the weight in the middle 2,500 lbs. What must be the breadth?

The general expression (§ 45. **X.**) is

$$\frac{L^2 \times W \times C}{D^3} = B.$$ Therefore,

$\frac{18^2 \times 2,500 \times 0.0166}{10^3} = \frac{324 \times 2500 \times 0.0166}{1,000} = 13.45$.

Ans. The breadth must be 13.5 inches.

EXAMPLE 17.

How long will it be safe to make a beam of ash, 13.5 inches deep, and 6 inches in breadth, if it be loaded with 1,500 lbs. in the middle?

The general expression for this is (§ 46),

$$\frac{D^3 \times B}{W \times C} = L^2.$$

Then $\frac{(13.5)^3 \times 6}{1,500 \times 0.0163} = 603.77 =$ the square of 24.56.

Ans. The length may be 24.5 feet.

Suppose the weight uniformly distribnted; how long might the same beam have been?

(By § 48.) $30 : 19 :: 1,500 : 950 =$ equivalent weight in the middle. Then

$\frac{(13.5)^3 \times 6}{950 \times 0.0163} = 953.32 = 30.87$ square.

Ans. The length may be 30 feet 10.5 inches.

§ 50. When a beam is supported at both ends, and is deflected by the action of a load, the fibres of the upper part are compressed, and those of the lower part are extended. Between the extended and the compressed fibres, there is a thin stratum of fibres, which suffers neither extension nor compression, and is said to be situated in the *neutral plane*, or *neutral axis* of the beam.

§ 51. The position of the neutral plane, in a rectangular beam, depends upon the relative power of resistance which the fibres of the same material offer to extension and to compression.

Prof. Barlow's experiments fix the neutral plane, in rectangular timber beams, at about five eighths of the depth from the top surface; giving 5 compressed parts to 3 extended.

§ 52. The fibres, acted upon by compression, are represented by the sectional area of the beam which is above the neutral plane; and those acted upon by extension are represented by the section of that part of the beam which is below the neutral plane.

§ 53. The center of the section above the neutral plane, may be taken as the center, or mean point of compression; and the center of the section below the neutral plane, may be taken as the center, or mean point of extension.

§ 54. The *strength* of rectangular beams, of four surfaces, is as the distances, between the centres of compression and extension, into the area of the section. The resistance to deflection, or the *stiffness* is as the *squares* of the distances, from center of compression to center of extension, into the area of the section of the beam, and this distance is, uniformly, one-half the depth of the beam.

§ 55. The strength of a rectangular beam of unequal thickness—as consisting of a vertical rib, with horizontal flanges at the top and bottom—may be determined by first finding the strength of a beam of uniform thickness, and deducting therefrom, the strength due to the parts wanting to complete the beam of uniform thickness. The stiffness of the same beam will be found in a similar manner;—the strength being as the square, and the stiffness as the cube of the depth.

(To be continued.)

The Revenues of Cuba.

An official statement has just been published of the revenues of the colonial government of Cuba for 1858. The results are as follows:

Total	$18,126,395 00
The items are thus stated:	
Imposts and contributions	3,842,397 48¼
Custom houses	10,778,688 97¼
Crown monopolies	1,060,395 96¼
Lottery	1,799,828 62¼
Public property	74,928 79
Eventual revenues	340,075 54¼
Items not in the budget	230,080 59
Total	$18,126,395 93

This sum exhibits a larger aggregate than really accrues to the Government, it being customary to make up their returns in such a way as shall show the largest possible total. The whole revenue for the year exhibits an excess of $2,512,567 93 over the estimated receipts for the same time, and an increase over the receipts of 1857 of $674,401,-44. Of this increase $172,400 29¼ came from an augmentation of import duties, and $101,846 87¼ from an increase of the amount of export duties collected.

Pacific Railroad.

The Board of Directors of the Pacific railroad company, have voted *not to accept* the act of the last legislature, authorizing the conversion of the 7 per cent. guaranteed bonds of the company into 6 per cent. State bonds. This places the Southwest Branch of the road precisely where it was at the commencement of the session, and makes the continuation of the work dependent altogether upon the sale of the guaranteed bonds.—*St. Louis Republican.*

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY	Length of Roa	Capital paid in	Debt	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Div'nd for do	Price of Shares.
Atlantic & St. Lawrence	149	2,494,900	3,482,000	6,923 941	545.762	150.224	6	----
Androscog. & Kennebec	58	457.909	1,838,308	2,210,947	159,513	83,368	none	----
Kennebec & Portland	72	1,107,526	1,763,738	2,871,264	213,255	----	none	----
Portl., Saco, & Portsm'th	51	1,396,400	----	1,359,373	253 717	120 909	6	20
Boston, Conc. & M'rim'l	93	----	1,104.586	2,848,977	324,767	174,025	----	16
Cheshire	51	----	899 313	3,179,687	355.629	113,077	----	6
Concord	36	1,500,000	8,242	1,412,576	317,050	125,664	6	52½
Northern, N. H.	82	3,068,400	406,286	3 068,400	365,880	166,996	4	48
Conn't & Passumps. Riv.	90	1,000,000	800.000	1,784,146	177,588	73,401	none	----
Rutland & Burlington	117	2.233,376	4,158,765	4,584,008	332,215	41.688	none	----
Vermont and Canada	47	1,350,000	----	1,380,695	Less'dto	Vt Cent	none	30
Vermont Central	122	5,000,000	5,276,299	8,402,055	705,888	127,389	----	----
Boston and Lowell	25	1,830,000	438,920	2,412,251	435,863	171,832	6	93⅛
Boston and Maine	74	4.076,974	----	4,229,231	770,802	305.502	6	100¼
Boston and Providence	43	3,160,000	239,720	3,584,458	584,176	245,134	6	85⅜
Boston and Worcester	44	4,500,000	599,974	4,843,779	1,019,149	388,513	6	95⅛
Cape Cod	47	681,690	291,007	1,031,625	122,960	39,899	----	49¼
Connecticut River	50	1,591,110	275,772	1,801,244	267,710	65,096	3	69½
Eastern, Mass.	60	2,583,400	2,441,373	5,082.607	616,156	272,479	----	48⅞
Fitchburg	67	3,540,000	100,000	3,872,821	668,974	250,843	6	95⅛
N. Bedford and Taunton	21	500,000	none	541 580	168,925	27,827	6	----
Old Col'y and Fall River	77	3,015,100	260,100	3,362,949	683,357	305,140	6	103
Vermont and Mass.	69	2,232,541	1,019,148	3,241,975	240,133	52,267	none	11¼
Western, Mass.	155	5,150,000	5,839,080	10,495,905	2,117,982	889,763	8	105¾
Worcester and Nashua	46	1,141,000	205,565	1,351,271	216,888	82,720	4	46
Prov'nce and Worcester	43	1.510 020	300,000	1,781,048	344,773	155,044	7	87
Hartford and N. Haven	72	2,359,000	944,000	3,329,602	769,065	340.815	10	120¼
Hart'd, Prov. and Fishkill	122	1,936,246	2 182 692	4,205,976	275,428	112,325	none	----
Housatonic	74	2.000,000	423,685	2,438,247	318,475	109,344	none	----
Naugatuck	57	1.031,800	524,244	1,580.723	237,416	114,237	----	----
N. York and N. Haven	62	2,980,836	2,323,240	5,258,232	1,157,055	254 569	3	45
N. Haven and N. London	50	738,258	761,462	1,450,318	88,007	30,318	none	----
N. London, W. & Palmer	56	510,700	1,052,000	1,603,230	120,571	51,644	none	----
Norwich and Worcester	66	2,122,300	724 188	2,598,871	265,417	44,547	----	31
Albany Northern	32	439,005	1,625,098	1,840.695	117,716	9,904	----	----
Black River and Utica	35	643.330	317,554	974,323	In progr.	----	----	----
Buffalo, Corn. and N. Y.	100	1,487,871	1,501,183	2,819,096	172,476	66,333	none	----
Buffalo and N. Y. City	92	798,439	2,587,849	3,401,868	288,392	31,896	none	----
Buffalo and St. Line	69	1,300,000	1,040,000	2,494,364	679,750	355,763	10	----
Canandaigua and Elmira	47	434,111	922,393	1,275,796	174,089	69,506	----	----
Canandaigua & Niagara F'lls	98	1,315,000	2,279,854	3,495,832	----	----	----	----
Cayuga & Susquehanna	35	687,000	506,689	1,187,562	135,433	48,649	none	----
Hudson River	144	3,758,466	9,250,362	12,737,898	1,902,826	688,880	none	33⅜
Long Island	95	3,000,000	647.193	2,555,986	325,1	56,186	none	10¾
New York Central	556	24,182,400	14,402,635	30.737,518	6,548,413	3,041,120	8	76⅝
New York and Erie	464	11,000,000	28,081,464	34,469,324	6 742,607	1 454,032	none	9¾
New York and Harlem	138	5,717,100	4,822,498	8,758,203	1,040,393	324,891	none	12⅝
Northern, N. Y.	118	1,633,022	4,406,874	5,470,714	520,153	135,754	none	1
Oswego and Syracuse	35	306,130	213,025	752,03	149,37	78,754	8	----
Pottsdam and Watertown	29	467,200	294,189	749,683	In progr.	----	none	----
Rensselaer & Saratoga	25	610,000	140,000	896,423	241,149	82,600	7	----
Saratoga and Whitehall	48	500,000	395,800	----	71,909	21,089	none	----
Syracuse & Bingham'n	80	768,369	1,578,804	2,272,777	159,484	22,503	none	----
Troy and Boston	27	437,830	737,079	1,109,822	156,363	55,184	----	----
Watertown and Rome	97	1,500,000	700,979	2,200,500	440,290	162,037	3½	50
Belvidere Delaware	64	1,000,000	1,619,000	2,844,090	243,393	114,632	none	----
Camden and Amboy	60	3,000,000	11,407,200	8,791,096	1,640,787	594,114	12	120
Camden and Atlantic	30	3,485,000	1,650,854	1,738,171	117,389	45,542	none	----
New Jersey	63	2,000,000	788,844	3,660,017	911,617	534,951	10	136
New Jersey Central	63	1 157,305	3,592,828	5,621 329	682,940	357,193	----	----
Morris and Essex	44	1,567,900	340,000	1,684,127	237,765	101,542	3½	----
Alleghany Valley	63	1,700,000	609,046	1,700 000	85,000	45 000	----	----
Cataw., Wil. & Erie	52	1,013,900	1,940,000	3,640,000	219,253	52 450	----	----
Cumberland Valley	170	3,292,772	213,509	1,226,675	156,463	77 92	----	----
Del. Lack. & Western	20	6,194,551	8,013,761	815,768	41 ,139	6	45	----
Erie and North East	33	600,000	150,000	750,000	----	----	10	----
Philad. & Sunbury	28	600,000	1,200,000	1,348,812	89 535	53,335	----	----
Little Schuylkill	56	2,600,100	546,222	3,407,651	353,301	255,930	9	----
North Penn.	256	3,051 305	2,820,165	5 106,34	243,784	136,597	----	9¾
Pennsylvania	96	13,206 625	15,690,524	27,266,952	4,859,070	1,854,927	6	88⅛
Phil. and Reading	98	11,275,541	9,423,506	19,263 720	5,065,522	1,583,776	10	50½
Phil. Wil. and Baltimore	38	5,600,000	2,673,450	8,568,309	1,143,855	378,876	4	38½
Phil. Germ. & Norristn	60	899 350	376,800	1,274,150	206,981	113,443	9	----
Pittsb. and Connellsville	32	1,748,052	1,613,403	2,285,606	4 ,687	4,318	----	----
Pittsb'g & Steubenville	269	1,221,277	280,000	914,695	In progr.	142,626	----	----
Sunbury and Erie	63	3,670,030	875,293	3,238,293	103,860	40,500	----	----
Williamsport and Elmira	78	1,500 000	1,990,000	3,464,454	274,554	157,458	----	9¾
Baltimore and Ohio	382	15,118,902	10,986,804	24,802,645	3,856,486	1,325,237	----	58⅞
Washington Branch	41	1,650,000	25,000	1,650,000	369,225	124,981	6	----
Northern Central, Md.	84	2,260,000	5,413,139	7,238,540	731,683	283,284	----	----
North-Western Va.	165	468,305	5,719,229	5,322,150	284,004	000,000	----	----
Alexandria and Lynchburg	97	1,457,000	1,006,484	2,028,066	275,791	138,842	----	----
South Side	123	1,371,800	2,136,274	3,368,000	375,297	183,345	none	----
Virginia Central	175	3,122,968	1,833,170	5 304,260	585,832	295,776	none	----
Virginia and Tennessee	204	3,503,200	3,251,955	6,765,155	468,191	223,240	----	----
Richmond and Danville	140	1,977,399	626,407	3,487,685	481,918	255,736	----	----
Richmond & Petersb'g	22	834,600	230,856	1,205,412	156,908	85,180	6	----
Rich'd, Fred. & Potom'c	130	1,000.000	730,506	1,708,168	232,172	120,212	7	----
Petersburg and Roanoke	63	769,000	158,502	1,009,115	263,874	123,661	4	----
North Carolina	225	4,000,000	----	4,235,000	Recently	opened.	----	----
Wilmington & Weldon	162	1,349,213	893,000	1,340,213	416,552	225,442	7	----
Wilmington & Manchester	171	1,123,358	1,215,909	2,079,109	462,511	240,988	none	----
Raleigh and Gaston	97	975,300	126,200	1,240,241	206,917	108,541	2½	----
Charlotte and S. Carol.	109	1,201,000	380,000	1,719,048	240,722	121,555	6	----
Greenvil & Columbia	165	1 293,464	968,800	1,999,080	214,866	206,774	----	----
North-Eastern	102	886,650	1,81 ,990	1,907, 78	99,404	38,272	----	----
South Carolina	203	4,179,205	3,318,525	7,588,037	1,449,80	740,535	9	----
Atlanta and La Grange	87	1,000,000	190,000	1,171,707	317,776	191,392	8	----
Georgia	211	4,166,000	475,893	4,174,491	1,036,572	525,171	7½	----
Georgia Central	191	3,725,910	194,767	3,750,000	1,122,04	682,510	10	----
Macon and Western	102	1,438,500	96,000	1,500,000	293,261	138 527	8	91
Atlantic City & W Point		1 ,414,92	992,894	2,444,728	5 5,80	1 0,17	----	----

NAME OF COMPANY.	Length of Road	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do,	Dividend for do.	Price of Share.
Brunswick and Florida, Ga.	30	151,887	463,648	538,649	In progr.	----	----	----
South. Western	143	1,399,100	441.292	2,269,323	365,214	208,771	9	----
Tennessee and Alabama	30	329,754	626,889	679,906	53,775	29,405	----	----
Tennessee and Missis.	64	757,640	611 812	1,151 152	161,001	99,488	----	----
Memphis and Charlest'n	287	2.228,177	3,495,288	5,572,470	642 022	334,504	----	----
Mobile and Ohio	305	6,784 879	2,066,459	10 701,428	554,382	278,428	----	----
Miss. Central	89	1,575,474	926,796	2,503,098	115,679	----	----	----
Southern (Miss.)	82	1,000,000	1,400.000	2.400.000	264.258	150,789	----	----
N.O., Opelousas & G.W.	80	2 800,000	750,000	3,877,525	284,178	127,450	----	----
N O. Jackson & G. N.	206	4,035 000	1,515,610	7,142,563	189 003	----	----	----
Vicksb., Shrevep. & Tex.	21	883,766	108 285	992,051	In progr.	----	----	none
East Tennessee and Ga.	111	1,192,974	1,738,669	2,703,428	227,363	104.992	----	----
East Tennessee and Va.	130	626,075	1,728,664	3,208,138	61,314	39,062	----	----
Nash. and Chattanooga	159	2,263,905	1,632,797	3,896,703	641,552	219,26	----	----
Covington & Lexington	98	1,354.850	3,065,917	4,091,604	426,408	220,906	----	----
Lexington and Frankfort	29	430,055	156,899	658,255	95,807	45,719	6	----
Lexington and Danville	13	694,444	71,000	765,500	In progr.	----	----	----
Louisville and Frankfort	65	744,069	625.216	1,502.095	245,750	109,059	6	----
Atlantic & Gt. Western	----	866,939	77,494	613,231	In progr.	----	----	----
Bellefontaine and Ind.	118	1,874 395	1,315,237	2,998.392	348,552	120,836	none	----
Clev., Col., and Cincin.	141	4,746,2	90,400	4,752,320	1,149,741	514,740	9	93⅛
Cleveland and Toledo	200	3,333,712	4 225,558	7,193,010	930,282	433,790	----	28⅜
Clev. and Mahoning	65	----	----	1,920 953	In progr.	----	----	----
Clev. and Pittsburg	133	2,780,744	3,043,992	5,537,466	581,877	309,518	----	8
Clev., P. & Ashtanula	95	3,000 000	1,495,548	4,040,978	1,251,538	581,454	15	----
Cin., Hamilt'n & Dayton	60	2 155,800	1,526,092	3,130,315	487,421	260.763	----	53
Cin., Wilm. & Zanesv'e	131	2,421,176	3,782,040	5,696,210	223 506	30,288	----	----
Columbus and Xenia	55	1,490,450	149,000	1,582,475	403,212	181,688	10	----
Dayton, Xen., & Belpre	63	437,838	422,658	860,496	In progr.	----	----	----
Dayton and Michigan	140	1,076,602	393,011	1,185,826	In progr.	----	----	----
Dayton and Western	35	310,000	700,481	1,035,173	125,940	65.253	----	----
Eaton and Hamilton	42	469,763	832,669	1,176,168	140,936	50,008	----	----
Little Miami	65	2,981,282	1,266,000	3,925,157	775,442	290,123	10	88
Sandusky, Dayton & Cincin.	171	2,697.090	3,368,000	6,065 090	682.614	----	----	----
Central Ohio	138	1,427.907	6,226,650	6,496,82	570,092	164 697	none	----
Pittsb., Ft. Wayne & Chicago	423	6 247,040	9 822,550	14,279,704	1,546,359	577,787	----	10
Pittsb'g, Maysv'e & Cin.	50	371,350	31,000	390,933	In progr.	----	----	----
Sand'y, Mansf. & New'k	127	1,350,000	2,206,357	3,552,357	328,958	164,479	none	----
Scioto & Hocking Valley	56	403,975	509,050	888,858	In progr.	----	----	----
Springf., Mt. Vernon & P.	113	1,000,000	950,000	2,194,000	In progr.	----	----	----
Tol., Wabash & St. Louis	242	2,965,100	7,577,500	10,542,600	Recently	opened.	----	----
Cin., Log, and Chicago	255	4,196,679	1,006,125	2,080,433	In progr.	----	----	----
Evansv'e & Crawfordsv.	109	986 061	1,270.872	2,158,713	249,868	124,140	----	----
Ind. and Cincinnati	88	1,686,809	1,564,584	3,029,989	491.743	245,622	7	----
Indiana Central	66	612,350	1,261,179	1,909,911	368,189	204,685	----	----
Ind., Clev. & Pittsburg	83	835,791	1,07 694	1 826,425	253, 19	85,248	none	----
Jeffersonville	78	1,014,252	694,000	1 839,576	222,737	94,318	none	----
Madison and Indianapolis	87	1 647,700	1,336,816	2,984 516	260,214	118,628	none	----
New Albany and Salem	288	2,535,121	5,281,848	7,029.494	645,827	371,402	none	----
Peru and Indianapolis	73	----	868 314	2,000,000	150,000	90,000	none	----
Terre Haute and Ind.	73	1,361,450	250,125	1,585,809	481,272	206,079	10	----
Chicago and Rock Isl'd	182	5,248,000	1,734,318	6,628,272	1,886,196	850,039	----	66⅜
Chicago, Burl. and Quincy	210	4 631 540	3,852,970	8 042 426	1,805,167	810,767	----	48
Chic., St. Paul & F'd du Lac	178	2,300,000	1,325.000	3,625,000	In progr.	----	----	10
Galena and Chicago	259	6,023,800	3,899,015	9,395.455	2,315,786	1,192,042	8	67½
Illinois Central	704	6,556,435	20,318,492	25,437,669	2 293,965	565,972	----	68⅜
Peoria and Oquawka	181	1,569,889	2,200,000	5,400,000	In progr.	----	----	----
Ohio & Miss. (Wst. Div.)	147	1,780,295	3,292,403	4,870,586	Recently	opened.	----	----
Terre Haute, Alt & St. Louis	208	3,011,150	5,925 927	8,726,764	823.767	247,757	----	----
Detroit and Milwaukee	185	838,000	1,128,964	1,966,969	Recently	opened.	----	----
Mich. Central	282	6,057,840	8,366,639	12,847,238	2 248,758	764 935	8	53⅜
Mich. South'n & N. Ind.	475	8,876,400	10,459,68	19,336,084	2,309,487	544,311	----	13⅝
Green Bay, Mi. & Ch.	40	1,000,000	780,000	1,780,000	----	----	----	5
Milwaukee and Miss.	235	3,440 673	4,610,583	8,051,255	882,818	372,691	----	7⅛
Milwaukee & Watert'n	72	354,861	132,000	514,238	In progr.	----	----	----
Milwaukee and Horicon	42	1,101,200	----	919,757	60,066	----	----	----
Milwaukee & La Crosse	200	7,643 974	8,316,734	15,980 708	407,197	203,264	----	¾
Racine and Miss.	86	1,586,405	498,479	2,681,086	192.459	118,467	----	----
Hannibal & St. Josephs	131	1,664,773	6,868,000	8,533,229	In progr.	----	----	----
North Missouri	107	2,612,100	3,600,000	4 346,229	160,564	----	----	----
Pacific	163	3,319,834	3,307,720	10,486,394	663,347	313,207	----	----
St. Louis and Iron Mt.	85	1,347,358	547,419	5,042,660	Recently	opened.	----	----
Panama	49	3,743,000	----	6,564,852	1,305,819	845,183	12	119¼

U. S. GOVERNMENT SECURITIES

	OFF'D. Per ct.	ASKED Per ct.		OFF'D. Per ct.	ASKED. Per ct.
Loan, 6 per ct.----1862	105	105½	Loan, 5 per ct.----1868	109	109½
Do. 6 do. ----1867	109½	110	Do. 5 do. ----1865	102	102¼
Do. 6 do. ----1868	109½	110	Do. 5 do. ----1874	104	104¾

STATE SECURITIES.

Maine, 6 per ct.----1860	101½	103	Indiana, Can. Loan 6 per ct.	----	----
Massachusetts, 5 per ct. 1859	100	100¼	Do. do. pref. 5 do.	7½	----
New York, 6 per ct. 1860-62	100½	103	Kentucky, 6 per ct. cp. 1869	72-104	105
Do. 6 do. 1864-65	102	105	Louisiana, 6 do. cp. long	96	97
Do. 6 do. 1866-67	104	107	Maryland, 6 do cp. 1870-90	105	106¼
Do. 6 do. 1872-75	111	113	Do. 5 do. cp.	----	91⅛
Do. 5½ do. 1860-61	100	101	Missouri, 6 do. cp. 1872	88	88¾
Do. 5½ do. 1865	101	103⅛	N. Carolina, 6 do. cp. 1873	99	99⅜
Do. 5 do. 1859-60	100	102	Ohio, 6 do. 1860	101½	102
Do. 5 do. 1866-74	101	103½	Do. 6 do. 1870	106½	107⅛
Do 4½ do. 1858-59-64	90	100	Do. 6 do. 1875	107	109
Alabama, 5 do. coup.	85	90	Do. 6 do. 1886	107¼	108
California, 7 do. coup. 1877	81	83	Do. 5 do. 1865	95½	100
Georgia, 6 do. do. 1872	100	101	Penna., 5 do.	93½	93⅝
Florida Int. Imp. 7 p. ct. 1891	----	85	Do. 5 do. cp. 1860	95½	96
Illinois Int. Imp. 6 per ct. 1847	104½	105	Tennessee, 5 do. cp.	----	80
Indiana 5 do.	90	91	Do. 6 do. cp.	----	93⅜
Do 5¾ do.	99	99	Virginia 6 do. cp. 1892	98	99¼
Iowa, 1868, 7 ann.	102	105			

Railroad Bonds.

NAMES OF COMPANIES. (*The following quotations are ex-interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked.
Alabama and Tennessee River	$838,000	1st mortgage, convertible	7	1st Jan. 1st July	N.Y.	1872	----	80
Buffalo and State Line	500,000	Do. inconvertible	7	April, October	"	1866	90	96
Bellefontaine and Indiana	600,000	Do. convertible	7	Jan'y, July	"	1866	----	75
Do. do.	200,000	Real estate, convertible	7	Jan'y, July	"	1858	----	----
Do. do.	200,000	Income, guar. Cl. Col. & Cin.	7	Feb'y, August	"	1859	----	----
Central Ohio	1,250,000	1st mort. conv. east. sec.	7	Divers	"	1861-64	60	70
Do.	800,000	2d do. inconvertible	7	March, Sept.	"	1865	40	42
Cincinnati, Hamilton, and Dayton	500,000	1st mortgage inconvertible	7	20. Jan. 20. July	"	1867	90	92½
Do. do. do.	465,000	2d do. do.	7	May, Novemb.	"	1880	79	79¾
Cincinnat and Marietta	2,500,000	1st mortgage, conv. till 1862	7	Jan'y, July	"	1868	----	----
Cincinnati, Wilmington, and Zanesville	1,300,000	Do. convertible	7	May, Novemb.	"	1862	----	----
Cleveland, Painesville, and Ashtabula	567,000	Do. inconvertible	7	Feb'y, August	"	1861	98	100
Cleveland and Pittsburgh	800,000	Do. convertible	7	Feb'y, August	"	1860	67¾	75
Do. do.	1,200,000	Do. on Branches	7	March, Sept.	"	1873	60	67
Cleveland and Toledo	525,000	Do. inconvertible	7	Feb'y, August	"	1863	75	80
Chicago and Mississippi	800,000	Do. conv. till 1857	7	April, October	"	1862-72	30	50
Do. do.	1,200,000	Do. inconvertible	7	April, October	"	1862-72	30	50
Covington and Lexington	400,000	Do. do.	6	April, October	"	1867	60	65
Do. do.	1,000,000	2d mortgage, convertible	7	March, Sept.	"	1883	47	55
Delaware, Lackawanna, and Western	1,500,000	1st mortgage, do.	7	April, October	"	1875	89½	91
Florida Freeland	1,500 000	Do. not convertible	7	March, Sept.	"	1891	77	78
Fort Wayne and Chicago	1,250,000	Do. conv. till 1863	7	Jan'y, July	"	1873	----	72¾
Galena and Chicago	2,000,000	Do. inconvertible	7	Feb'y, August	"	1863	92	94
Do. do.	2,000,000	2d mortgage, do.	7	May, Novemb.	"	1875	90½	91½
Great Western (Illinois)	1,000,000	1st mortgage, do.	10	April, October	"	1868	----	----
Green Bay, Milwaukee, and Chicago	400,000	Do. convertible	8	10. April, 10. Oc.	"	1863	87½	93
Jeffersonville	300,000	Do. 2d sec. inconv.	7	April, October	"	1873	----	----
Indiana Central	600,000	Do. convertible	7	May, Novemb.	"	1866	----	85
Indianapolis and Bellefontaine	450,000	Do. do.	7	Jan'y, July	"	1860-61	70	80
Indianap. & Cin'ti (for Lawb. & U. M.)	500,000	Do. conv. till 1857	7	March, Sept.	"	1866	83	87
La Crosse and Milwaukee	950,000	1st mort. 1st sec. conv. till 1864	8	May, Novemb.	"	1874	75	85
Lake Erie, Wabash, and St. Louis	3,400,000	1st mortgage, conv. till 1859	7	Feb'y, August	"	1865	71	72
Little Miami	1,500,000	Do. inconvert.	6	2 May, 2 Nov.	"	1883	83	86
Michigan Central	1,000,000	No mortgage, convertible	8	April, October	Bost.	1860	95	97
Do.	600,000	Do. do.	8	March, Sept.	"	1869	92	93
Milwaukee and Mississippi	600,000	1st mort. 1st sec. conv. till 1857	8	Jan'y, July	N.Y.	1862	----	80
Do. do.	650,000	Do. 2d do. 1858	8	April, October	"	1863	----	77½
Do. do.	1,250,000	Do. 3d do. 1860	8	June, Decemb.	"	1877	67	72½
New Albany and Salem	500,000	Do. 1st section	10	April, October	"	1858-62	----	----
Do. do.	2,325,000	Do. oth. sec. con. till 1858	8	May, Novemb.	"	1864-75	----	90
Northern Cross	1,200,000	1st mortgage, convertible	8	Jan'y, July	"	1873	----	75
Ohio and Indiana	1,000,000	Do. do.	7	Feb'y, August	"	1867	----	80
Ohio and Pennsylvania	1,750,000	Do. do.	7	Jan'y, July	"	1865-66	69	70
Do. do	2,000,300	Income, convertible	7	April, October	"	1872	55	56
Pennsylvania (Central)	5,000,000	1st mortgage, conv. till 1860	6	Jan'y, July	Phila.	1880	100½	101¾
Racine and Mississippi	680,000	Do. conv., sink'g f'd	8	Feb'y, August	N.Y.	1875	----	75
Scioto and Hocking Valley	300,000	Do. 1st sec. conv	7	May, Novemb.	"	1861	----	----
Steubenville and Indiana	1,500,000	Do. convertible	7	Jan'y, July	"	1865	----	----
Terre Haute and Indianapolis	600,000	Do. do.	7	March, Sept.	"	1866	----	----
Terre Haute and Alton	1,000,000	Do. do.	7	Feb'y, August	"	1862 7 72	68	72

NAMES OF COMPANIES. (*The following quotations include the accrued interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked
Baltimore and Ohio	1,128,500	Mortgage	6	Jan'y, July	Balt.	1875	85½	86¼
Chicago and Rock Island	2,000,000	1st mortgage, conv. till 1858	7	10. Jan. 10. July	N.Y.	1870	94	96
Erie Railroad	3,000,000	1st mortgage	7	May, Novemb.	"	1867	96	97
Do.	4,000,000	2d mortgage convertible	7	March, Sept.	"	1859	83	84
Do.	6,000,000	3d mortgage	7	March, Sept.	"	1883	72½	73
Do.	6,000,000	4th mortgage not convertible	7	April, October	"	1880	56	57
Do.	4,000,000	Not conv. Sink Fund, $420,000	7	Feb'y, August	"	1875	31	33
Do.	4,351,000	Convertible Inscription	7	Feb'y, August	"	1871	30	31
Do.	3,500,000	Convertible	7	Jan'y, July	"	1862	30	32
Hudson River	4,000,000	1st mortgage, Inscription	7	Feb'y, August	"	1869-70	102	102¾
Do.	2,000,000	2d do. do.	7	16. June, 16. Dec	"	1860	94	94¾
Do.	3,000,000	3d do. convertible	7	May, Novemb.	"	1870	76¾	77½
Illinois Central	17,000,000	Mortgage, inconvertible	7	April, October	"	1870	90½	91
Do. (Free Land)	3,000,000	M'ge 345,000 acrs-priv. 7 shar's	7	March, Sept.	"	1860	91	91¼
Michigan Southern	1,000,000	1st mortgage, inconvertible	7	May, Novemb.	"	1860	84	88
New York and Harlem	1,830,000	Do. do.	7	May, Novemb.	"	1861-72	94½	95
New York and New Haven	750,000	No mortgage, do.	7	June, Decemb.	"	1855'60'6	96	98
New Haven and Hartford	1,000,000	1st mortgage, do.	6	Jan'y, July	"	1873	90	94
Northern Indiana	1,000,000	Do. do.	7	Feb'y, August	"	1861	80	83
Do. Goshen Branch	1,500,000	Do. do.	7	Feb'y, August	"	1868	71¼	72½
New York Central	8,287,000	No mortgage, do.	6	May, Novemb.	"	1883	92½	93
Do. do.	3,000,000	No mortgage conv. from June 57-59	7	15. June, 15. Dec	"	1864	103¾	104
Panama, 1st issue	900,000	Convertible till 1856	7	Jan'y, July	"	1866	118	----
Do. 2d do	1,47 ,000	Do. till 1858	7	Jan'y, July	"	1866	90	91
	1 ,000,000	Mortgage, inconvertible	6	Jan'y, July	Phila.	1860	----	----
Reading	,000,000	Do. convertible	6	Jan'y, July	"	1870	84¾	85
Do.	3,469,000	Do. inconvertible	6	April, October	"	1886	75	76

CITY SECURITIES.	Int'st payable.	Off'd	Ask
New York, 5 per ct. 1858-'60	May,	98	99
Do. 5 do. 1870-'75	August, and	93	95
Do. 6 do. 1883	November.	103½	104
Do. 5 do. 1890-98		92	95
Albany, 6 per ct. coup. 1871-'81 X	Feb'y, August.	98	101
Alleghany, 6 per ct. coup. X	Jan'y, July	50	60
Baltimore, 6 per ct. 1879-'90	Quarterly	99	100
Boston, 5 per ct. coup. X	April October	100	101
Brooklyn, 6 per ct. coup. Long X	Jan'y, July	101½	102
Clev'l'd, 7 per ct. cp. W. W. 1879 X	Do. do.	100	103
Cincinnati, 6 per ct. coup. X	Divers	92½	95
Chicago, 6 per ct. coup. 1873-'77 X	Jan'y, July	85	87
Do. 7 per ct. coup. 1880 X	Jan'y, July	97½	99¾
Detroit, 7 per ct. cp WW. 1873-'78 X	Feb'y, August.	100	102
Dubuque, 8 per ct. cp. Long X	March, Sept.	----	100
Jersey City, 6 p.ct. cp. W W. 1877 X	Jan'y, July	99	101
Louisville, 6 per ct. cp. 1860-'83 X	Divers	71	73¾
Memphis, 6 per ct. coup. 1883 X	Jan'y July	6	67

CITY SECURITIES	Int'st payable.	Off'd	Ashd
Milwaukee, 7 per ct coup. X	Divers	45	70
New Orleans, 6 per ct. cp. R.R. X	Do.	75	80
N. Orleans, 6 per ct. cp. municip. X	Jan'y, July	85	90
Philadelphia, 6 per ct. 1876-'98	Jan'y, July	98¾	99
Pittsburgh, 6 per ct. coup. X	Divers	45	50
Quincy, 8 per ct. coup. 1868 X	Jan'y, July	67	75
Racine, 7 per ct. coup. 1873 X	10. Feb'y, Aug	----	80
Rochester, 6 per cent. coup. X	Divers	90	97¼
St. Louis, 6 per ct. coup. Long X	Do.	84	85¼
Do. do. Municipal X	Do.	86	87¾
Sacramento, 10 p.ct. cp. 1862-'74 X	Do.	37	45
S. Fr'cisco, 7p.c.cp. 1865, pay. N.Y. X	May, Novemb.	60	70
Do. 10 p. ct. cp. 1871 X	Do. do.	89	91
Do 10 do. pay. N. Y. X	Jan'y, July	----	----
Do. 6 per ct. pay. N.Y. 1875 X	Do. do.	56	61
Wheeling, 6 per ct. coup. X	Divers	----	50
Do. 6 p.ct. cp. Mun. 1874 X	March, Sept.	80	81¾
Zanesville, 7 [illegible] X	April, October	[illegible]	[illegible]

Cincinnati Stock Sales.

BY KIRK & CHEEVER.

For the week ending April 11, 1859.

BONDS.	Per cent.
Little Miami, 1st Mort.	6s.....83½ and int.
Covington and Lexington, 1st Mortgage	6s.....
Do. do. 2d do.	7s.....50
Do. do. Income	10s.....
Ohio & Miss., E. D., Construction	7s.....
Cinc., Ham. and Dayton, 1st Mortgage	7s.....
Do. do. 2d do.	7s.....83
Indianap. & Cincinnati, do. do.	7s.....

STOCKS.	
Cincinnati, Hamilton & Dayton	58
Columbus and Xenia	33
Indianapolis & Cincinnati	57
Little Miami	90
Ohio and Mississippi (E. D.)	3

Railroad Earnings.

The earnings of the Stonington Railroad in

March were	$21,239 86
March, 1858	15,798 33
Increase	$5,441 03

The earnings of the Galena and Chicago Union Railroad for the month of March, were:

	1858.	1859.
Freights	$61,907 50	$49,906 92
Passengers	37,573 12	31,001 11
Mails, &c	4,431 01	2,500 00
Total	$103,911 63	$86,408 03

The earnings of the Toledo and Western Road in March were:

Passengers	$22,198 48
Freight	36,204 69
Miscellaneous	3,316 66
Total	$61,769 83
March, 1858	59,124 61
Increase	$2,655 22

The receipts of the Little Miami and Columbus and Xenia Railroad were:

For March, 1859	$103,511 43
" " 1858	100,243 86
Increase	$8,267 57

The earnings of the Cleveland and Toledo railroad for the past eleven months were as follows:

	1858-9.	1857-8.
May	$70,000*	$85,849
June	57,293	71,220
July	53,565	63,855
August	59,502	63,346
September	84,383	83,871
October	80,120	95,256
November	75,620	82,724
December	70,750	87,165
January	59,637	65,211
February	56,937	54,974
March	75,330	90,956
Total 11 months	$748,137	$846,104

*Not official.

The earnings of the Norwich and Worcester Road for March were:

	1858.	1859.
Passengers	$7,655 87	$9,222 56
Freight	11,784 20	16,642 10
Total	$19,440 07	$25,864 66
Increase	$6,424 59	

The comparative earnings for eight months past were as annexed:

	1858.	1859.
August	$30,650	$31,571
September	32,314	31,837
October	19,835	27,310
November	17,240	27,012
December	15,916	24,094
January	13,540	21,633
February	14,259	19,703
March	19,440	25,364
Total	$163,294	$209,074

Increase in 1858-9, $45,780—nearly 30 per cen

The earnings of the Michigan Central Railroad for March are more favorable than anticipated. The figures are:

	1859.	1858.
Passengers	$77,837 87	$81,886 52
Freight	68,715 50	77,933 41
Miscellaneous	5,311 29	6,106 10
Total	$151,864 66	$165,926 03
Decrease	$14,091 37	

The earnings of the Chicago and Rock Island Railroad in March, were $64,700 00
March, 1858 ..... 92,063 07

Decrease $27,633 70

The earnings of the Macon and Western Railroad for March were $34,490 81
1858 ..... 26,191 39

Increase $8,299 42

The earnings of the Cincinnati, Hamilton and Dayton Railroad Company for March compare as follows:

1859 ..... $47,060 70
1858 ..... 39,430 99

The earnings of the Fond du Lac Road in March were $22,970 19 against $19,500 in February.

The receipts of the Grand Trunk Railway of Canada for the week ending March 26, were $51,664 54
Week ending March 27, 1858 ..... 50,383 11

Increase $1,281 43
Total traffic from July 1st $1,668,504 92
Same period last year 1,753,819 21

Decrease $85,314 29

American Railroad Journal.

Saturday, April 16, 1859.

St. Louis and Iron Mountain Railroad.

The chief object in the construction of this road was to penetrate the great mineral and lumber regions of Missouri and make them tributary to the city of St. Louis. No doubt is entertained that this object will be fully realized. The track is laid, and the road in operation, from Plum street, in St. Louis, to the Iron Works at Pilot Knob, a distance of 86½ miles—being two miles longer than originally contemplated by its projectors. Of this distance 47½ miles are straight lines; the remainder of the distance are curves of large radii. The maximum ascending grades on the first 40 miles south of St. Louis are about 16 feet to the mile in approaching the city, and 20 feet in leaving it. For the remainder of the distance, the maximum ascending grades going south are about 55 feet; going north, 45 feet.

The cost of the road is stated in the report of the company made to the board of public works in December last as follows:

Graduation and masonry	$2,198,731 07
Superstructure	821,910 98
Engineering and contingencies	211,997 76
Bridges, shops, machinery and tools	276,843 42
Land and land damages	130,261 78
Equipment	283,869 72
Stations, engine houses and machine shops	105,469 96
Fencing	16,659 92
	$4,045,744 61
Add interest, exchange, discount and commissions on sale of bonds	$1,154,313 92
Making a total cost	$5,200,058 53

The work is not however entirely finished; the engineer estimates the sum necessary to put it in complete order at $118,244 31.

The total amount of stock subscribed to the road is:

In bonds	$1,575,000 00
In cash	424,300 00
Total subscriptions	$1,999,300 00
Deduct delinquent list	$111,400 00
Discounts and commissions on bonds	236,694 13
	348,094 13
Total cost receipts	$1,651,205 87

The whole amount of State bonds authorized for the road is $3,600,000; the amount issued to the company is $3,276,000 00
The discounts, etc., on the same 598,547 16

Total cash proceeds $2,677,452 84

The amount of bonds due the company on the the 1st of March last was $324,000. It will be observed that nearly one-fourth of the cost of the road has been absorbed by commissions, discount, interest and exchange. The debt reported due by company amounts to $171,103 33. The amount due the county of St. Louis is $17,500. The semi-annual interest due on county bonds until December, 1864, is $17,500. The annual interest due on State bonds is $196,560. The semi-annual interest due on State bonds the 1st of January last, and unpaid, is $98,280. The estimated cash value of assets on hand is $72,449. Judgments against the company amount to $14,443. The earnings of the road for the year ending October 31, 1858, were $152,360 72. For November they were $19,102 03; and for December, 19,559 63. The total net earning of the Carondebt train for 6 months—making 6 trips per day—are set down at $8,105 45. The President is of opinion that the earnings of the road will reach $25,000 per month the coming year. The expenses attending the same about $15,000. This road has cost a very large amount of money, but its construction is of a very substantial character. After being thoroughly finished up it will cost but little comparatively to keep it in good running order. The masonry is solid and permanent. Some portions of it are unnecessary expensive. The bridges are thought to be substantial and safe, and when the ballasting and draining are completed, it will take rank with the first class roads. From the rocky character of the road bed, and the fact that the entire road is ballasted with rock and gravel, it is believed that it will compare favorably, as to the expense of repairs, with any road in the West.

The officers are:

Lewis V. Bogey, *President.*
J. B. Moulton, *Chief Engineer.*

Montgomery and West Point Railroad.

The business year of the Montgomery and West Point railroad company closed on the 1st instant. and the receipts for the past year have been:

From passengers	$235,271 70
From freight	149,829 92
Mail pay	31,052 30
Total	$446,153 92

104,994 pass'gers have been passed over the road.
32,793 bales of cotton passed down the road to Montgomery.
20,733 bales passed up the road to Columbus and West Point.—*Mountain Mail.*

Fairbanks Scales.

These Scales were invented more than thirty years ago by the Messrs. Fairbanks, of St. Johnsburg, Vt., and are still made only there, and by them. We believe they are in use everywhere, and are everywhere regarded as the cheapest and best. We are informed that other makers in order to introduce their own scales, make them similar in appearance to Fairbanks' scales—but in appearance only; and represent that they employ some of Fairbanks' workmen; and sometimes even that they are the genuine Fairbanks' scales. This shows the high estimate placed upon Fairbanks scales by the business public, and should put persons desiring to purchase them, on their guard, lest they get a different and inferior article.

Messrs. Fairbanks have always on hand a full assortment of railroad, coal, hay, grain, cattle and store scales. Address Messrs. Fairbanks & Co., 189 Broadway, New York.

Ohio Central Railroad.

The following is a statement of the operations of this road for the year ending November 30, 1858.

Receipts from freight	$421,749 40
Receipts from passengers	302,216 39
Receipts from mails, express, rents &c	48,127 74
Total	$772,093 53
The total cost of operation	439,999 88
Net earnings	$332,093 65

The ratio of the cost of operation, in which is included repairs of locomotives and cars, repairs of the road and bridges, the renewal of the track, loss and damages, insurance, taxes and salaries, as well as all the other items usually comprehended in working expenses, it is thus seen, is 57 per cent of the gross receipts.

The gross earnings for the year ending Nov. 30, 1857, were	$739,924 20
The expenses of operating	453,957 16
Net earnings	$295,967 04
The increase in earnings in 1858 over those of 1857, has therefore been	$32,169 33
The decrease in expenses	3,957 28
Net increase	$36,126 61

The number of miles run in 1857, was 515,809. The number of miles run in 1858, was 646,413.—So, that while the mileage has been increased 25 per cent., the expenses of operating are slightly reduced.

During the year there has been no collision and no loss of life, or injury to passengers.

The total expenditure for the construction and equipment of the road, including payments for right of way, as appears from the books of the company,

November 30, 1858	$9,157,232 83
For telegraph line, personal property, &c	145,055 91
Total	$9,320,288 74
Assets Beaver Co., bonds (hypothecated.)	$31,000 00
Bills receivable	7,791 96
*Massillon bank judgment	52,139 00
Cash	12,764 27
Fuel on hand	9,550 62
Personal accounts	63,553 22
Total	$176,790 07

The following accounts are on the ledger but will be charged to other accounts when a settlement is effected with the O. L. I. and Tr. Co., and C. W. Rockwell.

* Directions have been given to charge this item to construction account.

Beaver Co. bonds	$7,000 00
Wheeling city bonds	41,000 00
Alleghany Co. bonds	10,000 00
O. L. Ins. and Trust Co. account	124,024 00
Total	$182,024 00
Grand total	$9,661,102 81

The liabilities of the Company appear as follows:

Stock	$3,942,368 63
Stock scrip and dividends	49,827 54
First mortgage bonds	800,000 00
Second mortgage bonds	1,189,000 00
Third mortgage bonds	1,165,000 00
River line bonds	1,154,000 00
Income bonds	118,500 00
Dividend bonds and scrip	491,825 21
Bills payable	653 821 55
Balance of net earnings account	96,759 87
Total	$9,661,102 81

The expenditures for all objects have been as follows:

Interest	$219,757 97
Pittsburg, Fort Wayne and Chicago lease	55,000 00
Bills payable, running expenses and construction accounts for 1857, &c.	113,076 38
Right of way	18,572 70
Income bonds	3,000 00
Alleghany bonds	2,458 18
Cash on hand	17,764 27
Total	$424,659 50

It appears from this statement that the indebtedness of the company has been reduced within the year, $137,097 26.

North Eastern Railroad.

The earnings of this road for the year ending February 28, 1859, were

From passengers	$78,689 24
" freight	108,271 46
" mail and other sources	33,053 04
Making an aggregate of	220,013 74
While the expenses reached	123,868 93
The net revenue being therefore	$96,144 81

The receipts to capital, to the date named has been as follows:

From stockholders	$897,242 87
" 1st mortgage bonds	700,000 00
" 2d mortgage bonds	224,500 00
" Preferred stock	75,500 00
" Bonds for real estate	35,910 00
" Bills payable	98,265 81
" Open accounts	9,906 76
	$2,041,325 44

Assets on hand and applicable to the above:—

1st mortgage bonds, at par.	$8,000 00
2d mortgage bonds, at par.	79,500 00
Stock in Cheraw and Darlington railroad	14,268 71
Bills receivable	895 62
Cash	23,153 69—125,818 02
	$1,915,507 42

The cost of the road on the 28th February, 1859, with all its properties, inclusive of interest, losses on sales of bonds, &c., &c., as shown by the annexed report of the Treasurer, is. $2,011,652 23

From which deduct net proceeds of transportation for the past year, carried to credit of construction account	96,144 81
Cost on 28th February, 1859	$1,915,507 42

The sum of $29,295 in interest has accrued and is payable on the 1st of March, 1859, but is necessarily excluded from the Treasurer's statements, which are dated 28th February, 1859, the close of our fiscal year. The above is the cost, after deducting the balances of transportation, since 1856; to arrive at its *actual cost*, these balances should be added, which were as follows:

		$1,915,507 42
For the year 1856	$8,241 96	
For the year 1857	20,247 93	
For the year 1858	34,197 21	
For the year 1859	96,144 81—	158,831 85
Making		$2,074,339 27

The directors elected for the current year are:

A. F. RAVENEL, *President.*

Hon. Charles Macbeth, Hon. Mitchell King, Col. Allan Macfarlan, John Ravenel, Esq., Smith Mowry. jr., Esq., Edward Sebring, Esq.

Toledo, Logansport and Burlington R. R.

Means have recently been provided for the extension, under the above title, of the Peoria and Oquawka Railroad to Logansport, Indiana, where a junction will be formed with the Wabash Valley line. Bonds have been issued on the extension to to the amount of $800,000. The Wabash Valley, Cleveland and Toledo, Cleveland, Painesville and Ashtabula, and Buffalo and State Line Companies undertake to purchase the mortgage bonds—or virtually redeem them at par from the first or original holders—with one-half of the proceeds of the business which these companies derive from the new connection, both ways. The purchases are to be thus made every month; the numbers of the bonds for surrender at par to be drawn by lot. The companies are parties to this arrangement in the proportion of the respective lengths of their road. That is the Wabash Valley undertake to purchase $300,000; the Cleveland and Toledo $200,000; the Cleveland, Painesville and Ashtabula $150,000; and the Buffalo and State line $150,000. The Peoria and Oquawka Company, as perpetual lessees, undertake to provide the interest upon the bonds. Of the mortgage of $800,000, the sum of $450,000 has been placed in England for the rails, and the remaining $350,000 have just been sold, by subscription, in this city, by Messrs. De Coppet & Co.

Railroads in Maine.

Bills, appropriating one and a half millions of the public lands to aid in the construction of the Aroostook railroad, and the European and North American railway, were passed by the Maine legislature on the 4th instant. A loan act was also passed authorizing the City of Bangor to loan its credit thereto to the amount of $500,000.

There is to be a trunk line from Bangor to the boundary of New Brunswick by the way of Mattawamkeag, with a branch line to Aroostook.

These matters have occupied the chief attention of Legislature for the last four weeks, but finally passed by overwhelming majorities.

In the Senate the vote stood 24 to 2; in the House 122 to 5. These measures, it is believed, secure the building of the railways named.

Cairo and Fulton Railroad.

At the annual meeting of the Stockholders of this road, held at Cape Girardeau, on the 14th inst., the following board of directors was elected. M. Brayman, of Springfield, Ill.; S. Sexton Chicago, D. F. McCrellis, Ill.; H. H. Bedford, Charleston, Mo.; S. G. Kitchen, Bloomfield, Mo. At the subsequent meeting of the directors, M. Brayman, Esq., was elected President, S. Sexton, Vice President and Superintendent, and S. R. Teasdale, Secretary and Treasurer.

Delaware and Hudson Canal Company.

Statement of the Business of the Delaware and Hudson Canal Company, for the year ending March 1, 1859.

Coal on hand March 1, 1858	$590,703 50
Mining coal	232,606 97
Railroad transportation and repairs	213,059 18
Canal repairs and superintendence	205,161 79
Freight of coal to Rondout	273,650 70
Labor and expenses at Rondout	51,507 43
Rent, salaries, current expenses, &c. N. Y. Office	35,306 45
Coal-Yard and harbor expenses, taxes, interest, &c	190,794 45
Balance	420,650 09
Total	$2,213,450 56
Sales of coal to March 1, 1859	$1,666,633 33
Canal and railroad toll collected	307,698 11
Profits of barges, &c	17,507 77
Coal on hand at Honesdale, Weymart, Rondout and New York	221,611 30
Total	$,213,450 56

The Delaware and Hudson Canal Company in account with the Treasurer, to March 1, 1859.

DR.

To Capital stock		$7,500,000 00
To 7 per cent. bonds		900,000 00
To mortgages payable	$18,436 24	
To bills and accounts payable	304,281 11	322,717 35
To profit and loss		842,899 55
Total		$9,565,616 90

CR.

By canal		$6,156,488 98
By railroad*		1,484,762 12
By coal lands and other real estate.		445,094 02
By canal boats, barges, steamboats, machinery, tools, &c		442,662 60
By mortgages receivable.	$42,963 40	
By bills and accounts receivable	310,677 46	
By cash and demand loans	145,304 67	
By coal on hand at New York, Rondout and Honesdale, with advances on business of 1859.	497,463 45	1,036,408 93
Total		$9,565,616 90

During the year the company's railroad has been extended to Archbold, six miles, to lands of the company not heretofore worked. The cost of this improvement has been $300,000, for which the bonds of the company, at 7 per cent. due in five years, have been sold at par. The whole funded debt of the company is now $900,000, to provide for the payment of which a sinking fund of $75,000 per annum has been established. The report says:

A site for a coal depot and basin has been purchased on the Hudson river, at Weehawken. The contract for the construction of the docks has been let, and the work upon them will be proceeded with as soon as the weather will permit, and it is hoped they will be ready for partial use before the close of the present season. The area covered with the proposed improvements will be about 17 acres, affording an ample basin for the harbor of loaded boats at the close of navigation, and space

* In making the improvements in the railroad referred to in the Report, it became necessary to abandon several miles of the old line of road.—The account will, at the proper time, be credited with the value of the property so abandoned, now estimated to be about $150,000. When this is done, the profit and loss account will of course be correspondingly diminished. The other construction accounts generally represent values considerably greater than the amount with which they stand charged.

on the docks for the deposit of all the coal which the company will need for the supply of its customers during the Winter and Spring months.—The interest on the cost of property when improved will be less than the rents now paid for yards in the city, while the facilities secured thereby will be very much greater.

Canadian Trade.

From the Trade and Navigation Returns of the Canadian Government, we learn that the value of the goods enumerated in the Reciprocity Treaty—being the growth and produce of the United States, and imported into Canada during the years 1857 and 1858—was as follows:

1857	$8,642,044
1858	5,564,615
Decrease	$3,077,429

The following shows the total exports of Canada to all parts of the world during the past two years:

	1857.	1858.
Produce of the mine	$286,469	$314,823
" " fisheries.	540,113	718,296
" " forest	11,730,387	9,447,727
Animals and their products	2,107,240	2,462,765
Agricultural products	8,882,825	7,904,400
Manufactures	398,821	325,376
Other articles	121,120	112,538
Total value of exports	$24,076,975	$21,285,925
Value of ships built at Quebec	1,383,444	743,640
Estimated amount of exports, short returned, at inland ports	1,556,205	1,443,044
Grand total to exports	$27,006,624	$23,472,609

Statistical view of the Commerce of Canada, exhibiting the value of Exports to, and Imports from Great Britain, her Colonies, and foreign countries during the year 1858.

	Exports.	Imports.
Great Britain	$8,898,611	$12,295,487
North American Colonies	960,428	415,375
United States	11,930,094	15,635,582
Other foreign countries	240,432	732,083
Total	$22,029,565	$29,078,527

Comparative Statement of the value of imports and exports of Canada, during the years 1857 and 1858:—

	Exports.	Imports.
1857	$27,000,625	$39,430,598
1858	23,472,609	29,078,527

Comparative statement of the gross and net revenue received from customs for the years 1857 and 1858:

	1857.	1858.
Gross re'pts of duties	$3,927,208.77	$3,383,290.93
Charges for collection	303,685.95	341,863.37
	$3,623,522,82	$3,041,437.56
Less return duties and balances	27,767.90	15,133.17
Net revenue of Custom's duties	$3,595,754.83	$3,026,294.39

Census of Louisiana.

A State Census recently taken in Louisiana, exhibits the following results, as compared with the National Census of 1850:—

	Year 1850.	Year 1859.	Increase.
White	255,491	325,007	69,516
Free colored	17,462	18,164	702
Slaves	244,809	303,800	58,991
	517,762	646,971	129,209

The white population has increased in a somewhat greater ratio than the slaves.

From 1840 to 1850 the free colored population decreased, according to the census returns 8,040
Increase from 1850 to 1859 702

Net decrease of free colored in 20 years 7,338

In 1830 the free colored population of Louisiana was 19,710. Increase in thirty years, 1.454. In the meantime the white population has increased from 89,441 to 325,007, and the slave population from 109,588 to 303,800.

Grand Trunk Railroad.

21 Old Broad Street, London, E. C.,
8th March, 1859.

The undersigned London Directors of the Grand Trunk Railway of Canada, believing an erroneous impression prevails respecting its present and future position, and as the statutary constitution of the Grand Trunk Company requires the general meetings of the shareholders to be held in Canada, the Directors are anxious at the present time to lay before the proprietors, by this circular, a concise account of the present position of their undertaking, showing the amount of capital already expended and still required, the works which have been finished and those that remain to be executed, and to make some remarks on the present revenue and future prospects when the line is open to Sarnia and the Victoria Bridge completed.

The total capital set forth in the original prospectus as necessary to complete the line amounted to £9,500,000, The sum of £3,111,500 has been raised in bonds of the Province of Canada, the interest on which formed the first claim on the railroad. The remaining capital consists of the debentures and shares of the company.

Many circumstances arose, especially connected with the line between Montreal and Portland, which caused an expenditure not originally contemplated, and a junction of twenty-two miles in length has atso been made between St. Mary's and London; but, on the other hand, the Canadian Legislature liberally consented to forego all claims for interest on the amount of provincial bonds above stated, until the original shareholders received 6 per cent.; and the eastern portion of the line has been curtailed nearly thirty miles, causing a saving of about £250,000.

The actual capital raised and expended to this date, on which interest is payable, is £8,426,000, which stands in the following order:

1st.	£2,000,000	Preference Debentures, 6 per ct.
2nd.	2,144,600	Ordinary " "
3rd.	1,500,000	7 per cent. " "
4th.	2,781,600	Consolidated Stock.
	£8,426,2000	

And authority is to be asked for at the meeting about to be held in Canada, to raise the further sum of £1,111,500, by Second Preference Debentures, under the powers granted by the Act of 1858, which sum, with existing assets, will be required to pay off present liabilities, and to open the whole line from Sarnia to Quebec and Riviere du Loup, and to Portland, a total distance of 1,057 miles, including the Victoria Bridge.

The cost, therefore, of the railway to the shareholders, equipped with working stock, and including the bridge, will be about £10,000 per mile, a sum which the directors cannot but consider extremely moderate, when it is remembered that all the works will be of the most substantial character, the bridges and viaducts being of stone and iron, that the Victoria Bridge will cost £1,350,000, and that interest has been paid by the company during the construction of the works, to the extent of £1,200,000. The length of line now opened is 880 miles, and by October next, the bridge and the extension to Sarnia, of seventy miles, will be ready for traffic; and at the same time a railway in the State of Michigan, between Port Huron, opposite to Sarnia, and Detroit, fifty-five miles in length promoted in the interests of the Grand Trunk Railroad, and to be worked by it, will also be open.

The position of this latter railway must insure to its own shareholders a highly remunerative return, whilst its importance to the Grand Trunk cannot be over-estimated, as it completes the link with all the American railways extending west and south, thus forming a continuous line between Chicago and the eastern seaports of Quebec and Portland.

It now remains for the directors to examine into the extent and character of the traffic already obtained, to compare it with that calculated upon in the prospectus, and thus to enable the shareholders to form their own opinion as to the future.

The traffic to the present time has been almost entirely local; but it is most gratifying to find that the receipts upon the portions of the line now open, 880 miles, have already exceeded the total amount originally looked for from that source over the whole length of the road, and this traffic is evidently increasing. The gross amount calculated upon in the prospectus was £460,000 on 1,112 miles, or at the rate of £8 per mile per week. The sum actually received in the two years, 1857 and 1858, has been at the average rate of £11 per mile per week upon the whole distance as opened.

In regard to the through traffic, the directors can see no reason for doubting the accuracy of the original calculations. The vast trade of the West has greatly increased during the last few years, as likewise the exports and imports and the population of the Province of Canada. A regular line of steam packets between Quebec and Portland and Europe, shortly to form a weekly communication, has been established. The Grand Trunk will thus form the best route to the Western States of America and the Red River settlement of the Hudson's Bay Company, and ultimately to British Columbia.

At the close of this year, when the junction between the Grand Trunk and the various railways in the state of Michigan has been effected at Detroit, the advantages offered by the Grand Trunk for the conveyance of the Western produce to the Eastern ports, a distance of 800 miles, without break or gauge, must attract to itself a large share of this traffic; and with the view of forming an opinion of its extent, the directors have examined the gross revenue actually obtained on the four principal lines, which have hitherto transported a large proportion of it, and it appears that, taking the total receipts during the two years 1857 and 1858, the latter being one of great commercial stagnation, the average amount received per mile per week has been; on the Michigan Central, £31 4s.; on the Great Western of Canada, £32 6s; on the New York and Erie, £46 10s.; and the New York Central, £49 16s.; the average of these four lines exceed £40 per mile per week,

In addition to a share of this vast trade, to obtain which the Grand Trunk is in a most favorable position, it will derive additional traffic from the produce brought by the Lake navigation, and intercepted at Sarnia, where ample provisions will be made for its reception and transport.

With these facts before them the directors have every confidence that the very moderate estimate of £30 per mile on the Western, and £20 on the Eastern half, making an average, on the whole line of £25 per mile per week, from the local and through traffic combined will be realized, and also that the working expenses under these circumstances will not exceed 50 per cent. of the receipts.

On the portion of the line, West of Toronto, already opened, the local receipts for the last few months have exceeded £20 per mile per week, and the working expenses have been less than 50 per cent.

Assuming that the total capital on which interest will have to be paid may in round numbers be £10,000,000, the result will be as follows:

£25 per mile per week on 1,057 miles	£1,374,100
50 per cent. for working expenses	687,050
	£687,050
Deduct rent on Portland section	73,000
Leaving a net profit	£614,050

—or more than sufficient to pay 6 per cent. on the

whole debenture and share capital of the company.

Under these circumstances, the London Directors, in offering, without reserve, their views on the position of the Railway, feel that the Board have adopted the best and most equitable mode of raising the necessary funds by the proposed issue of £1,111,500 Second Preference Debentures, which, with the £2,000,000 of First Preference already issured, assume the position originally occupied by the Provincial Debentures of £3,111,500.

As soon as the London Directors have received from Canada the information that the requisite sanction has been given for this issue, they will announce the arangements they propose to make for the disposal of the debentures.

THOMAS BARING, *Chairman.*
GEORGE CARR GLYNN,
KIRKMAN D. HODGSON,
H. WOLLASTON BLAKE,
WILLIAM CHAPMAN.

Buffalo, Bradford and Pittsburg Railroad.

The Bradford (Penn.) *Miner*, alluding to the consolidation of the Buffalo and Bradford railroad companies, under the title of the Buffalo, Bradford and Pittsburg railroad, gives the following statement in regard to the location and condition of these consolidated roads;

The Buffalo and Pittsburg railroad company, by the terms of its charter, was authorized to construct a railroad from the city of Buffalo to the nothern line of Pennsylvania, in the valley of the Tunungwant. The portion of this road lying between Carrolton Station, on the New York and Erie railroad, and the State line, is entirely bridged and graded, and a large amount of work has been done north of the last named road.

The Buffalo and Bradford railroad company was empowered to build a road from the State line, up the valley of the Tunungwant, southwardly, to connect with the Alleghany Valley and Sunbury and Erie railroads, with the privilege of constructing as many lateral roads, each not exceeding twenty miles in length, in McKean, Elk and Clearfield counties, as may be useful for the transportation of the productions of said counties. The road is now graded from the State line, at its connection with the Buffalo and Pittsburg, to within about a mile of Marshburg.

Journal of Railroad Law.

INSURANCE COMPANIES.—PENNY WISE AND POUND FOOLISH.

Heretofore, that Insurance Company stood highest in public estimation which was the most prompt to pay its losses, refusing so to do only when absolved from the obligation by the fraud of the insured, or by his palpable violation of their rights, a violation accompanied with injury to themselves. But latterly some of our Insurance Companies have adopted a policy, which if it be not at once and publicly disowned by the other companies, will have the effect seriously to impair insurance business. If, amid all the numberless conditions of the policy or all the mutations to which insured property is subject, astute counsel can find some technical objection upon which to found a plea whereby to delay at least, and if possible, entirely to avoid the payment of the loss, there are companies to be found, companies hitherto maintaining good positions, that are not ashamed to avail themselves thereof. Now, insurance business, more than any other rests upon a foundation of trust and confidence. Ordinarily where a contract is entered into, both contracting parties stand upon the same level in respect to the care which they exercise for the protection of their respective rights. If the contract be one of solemnity and importance, and is submitted to the legal adviser of either party, it is generally submitted to the legal adviser of the other. Not so in the contract of insurance. The policy is carefully prepared beforehand by counsel in the interest of the company. Its numerous conditions carefully studied and elaborately discussed, and their effect well considered before it is given to the insured. He, upon the other hand, is without legal advice. He has neither the time nor the ability to give to its provisions the careful study which the Insurance Company has done through their counsel. To employ another lawyer to do so would cost him the amount of his premium many times over. If therefore the parties are to stand upon their strict legal rights, the merchant had better altogether abandon the idea of insuring. If, therefore, the Insurance Companies desire to retain their business, they must, by their course in meeting losses, establish in the community, this faith, that unless the insured is guilty of a fraud in procuring the insurance, or of a palpable violation of the company's rights, and one injurious to them, the loss, if there be one, will be promptly and unhesitatingly be met by the company. Those companies who adopt a different principle, and who seem to think that they manifest great shrewdness in devising new and unheard of defences, well deserve to suffer. For though by the interposition of such defences, they may save a few thousand dollars in single instances they destroy by their course the confidence of the community in them, and cannot fail to lose in premiums much more than they will ever gain by the occasional avoidance of the payment of losses. It is unfortunate that they bring injury not only upon themselves but also upon the whole insurance business. We are led to these remarks more particularly by some recent cases, most of which will be found in the 17th Vol. of the New York Reports, Court of Appeals. We give four of these cases as illustrations of the kind of defences of which we have been speaking.

Benjamin *vs.* The Saratoga County Mutual Fire Insurance Company.

In this case the policy contained the usual clause that in case of subsequent insurance on the property insured, notice thereof should be given to the defendant with all reasonable diligence. The plaintiff subsequent to his insurance with the defendants, obtained an additional insurance of $6,000, one-half in the Howard Insurance Company and one-half in the Hartford Insurance Company. Notice of the additional insurance was given to the defendants, but by accident it was stated to have been all taken out in the Howard Insurance Company. The defendants as one of their grounds of defence claimed that this error avoided the policy, and sought to evade the payment of the loss upon that ground. The Court of Appeals, however, held that the circumstance did not constitute even a legal defence, that it was enough that the defendants were informed of the amount of reinsurance, and that the names of the particular companies which made the insurance were immaterial.

Hooper *vs.* The Hudson River Fire Insurance Company.

In this case the insurance was effected on a retail stock of goods. After the insurance, the stock was sold on execution to the present plaintiff and a few days after the sale, an assignment of the policy was given with the consent of the company. A fire occuring thereafter, the company refused to pay, on the ground that the policy became void in he hands of the original insured, by reason of the fact, that his interest in the property passed by the sale under the execution, that the insured had therefore, no interest which he could assign, and therefore *although the company had consented to the assignment* they were not liable on the policy. The force of this point was not appreciated by the courts, who held that the company were liable and rendered judgment against them.

The case of Grosvenor *vs.* The Atlantic Fire Insurance Co. of Brooklyn, is another instance of one of these defences, but as the principle involved in this case is one of great importance, we will leave it for another article. Those Insurance companies, and they constitute the large majority, who are willing honestly to bear the burdens which they have voluntarily and for a consideration assumed, should take measures to denounce the course pursued in such cases as these, and to enable the community to distinguish between those companies in whom trust can be reposed, and those who mean to take advantage of every mode of escape, which the ingenuity of astute counsel can devise for them.

Sandusky, Mansfield and Newark Railroad.

The "Third Annual Report of the President and Directors of the Sandusky, Mansfield and Newark Railroad Company, to the stockholders, for the year ending December 31, 1858," has been issued. During the year the road and its appurtenances have been subjected to a thorough system of repairs and renewals, and may now be considered in a secure condition for the transportation of persons and property.

In regard to the sources of revenue, the Directors say:

"The experience of the past strengthens our conviction that the chief reliance of this road must always be in its local business; it is gratifying to observe an increase from it hereafter. One of the most encouraging features of your road may be traced in the fact that its way business alone yielded nearly $185,000 in 1858—$26,000 more than the operating expenses and new works and reconstruction both included."

The expenses of the year foot up $158,556 68; from this $25,000 should be deducted for "extraordinary expenses." After making this deduction we have $133,556 68 as the amount properly chargeable for ordinary repairs and expenses for the year:

Earnings		$209,918 00
Ordinary expenses	$133,556 68	
New Works	25,000 00	
		158,556 68
Net income		$51,371 32

In regard to future management, the opinion of the board is as follows—an opinion that embodies a correct principle for all railroad management:

"The Board are of opinion that hereafter whenever the income of your road reaches $250,000 per annum, the property can be maintained whole, and the obligations of the Company promptly met; whenever it falls below that sum, it cannot be done. The directors believe that their first duty is to protect their road and its equipments from depreciation, and to discharge all obligations incidentally incurred in the business. The road, its equipments and patronage, constitute your capital, and if the capital be suffered to decay and run to waste, the entire investment becomes valueless. They regard it as a fraud on the owners and creditors of a road to allow the track to rot down and the machinery to be worn out, in order that large net earnings may be shown for a year or two."

Debt of South Carolina.

The debt of this State on the 30th September, 1858 amounted to $4,244,165 and since that date $200,000 additional bonds have been issued making the whole $4,444,165, viz: stock and bonded debt $3,192,743 and U. S. surplus revenue deposited with the State $1,051,422. During the year 1857-'8, $429,241 had been redeemed; and the State has a sinking fund amounting to $1,843,803.

St. Louis, Mo.

A census taken in 1858 returned the population of this city at 135,330. Of which number, 59,657 were Americans; 43,874 Germans; 22,014 Irish; 3,451 English; 1,337 French; 1,951 foreigners of other origin; 1,672 free blacks, and 1,484 slaves. In 1852, the population was 87,654, viz: whites 84,340, free colored 1,455, and slaves 1,859, and in 1856 it was 97,642, viz 94,686 whites, and 2,956 colored.

East Pennsylvania Railroad.

On the 7th instant., the following gedtlemen were elected Directors of the East Pennsylvania road (the Allentown link): Edward M. Clymer of Reading; James M. McLean, New York; William M. Heister, Reading; John McMannus, Reading; Charles H. Hunter, Reading; Edward Brooke, Reading; Horation Trexler, Mertztown; Robert E. Wright, Reading, and John S. Richards, Reading.

Railroad Iron.

The report of the American Iron Association for 1858, gives the amount of railroad iron made in the United States in 1856 as 142,555 tons. In addition to the above, five rolling mills for the manufacture of railroad iron were idle in 1856. Of the 142,555 tons of rails manufactured, 84,654 tons were made at nine rolling mills in Pennsylvania, and 57,901 tons at seven rolling mills in other States; consequently, three-fifths of the whole quantity of railroad iron produced in the United States in 1856 was supplied from the rolling mills in Pennsylvania.

St. Louis Car Works.

We paid a visit yesterday morning to the shops of the St. Louis Company, who are engaged in manufacturing cars for the Hannibal and St. Joseph road. This establishment seems to be in a very flourishing condition; the proprietors, Messrs S. B. Lowe & Co., are working all the men that they have room for, and are turning out on an average two cars a day. They have, we understand, about forty yet to build, in order to fill their contract, and at this rate they will soon be done. They have in their employ the very best of workmen, as the cars already turned out abundantly prove.—*Hannibal Messenger.*

Terre Haute, Alton and St. Louis Railroad.

Among the many routes leading from St. Louis to the East and North, there are none more deservedly popular with our citizens and the traveling public than the one mentioned above. For the past two weeks hundreds of laborers have been at work along the entire line of this road, setting new ties, ballasting and repairing the track, and have now succeeded in getting it in the most thorough and perfect condition. By an advertisement in another column it will be seen that the Morning Express now leaves the office at 6 15, and the Telegraph Express at 2 15, P. M., and they have also renewed their celebrated express trains, *running through from St. Louis to New York city in forty-five hours.* Having often traveled over this route, we most cordially recommend it to all who desire to make a speedy, pleasant and agreeable trip. We are pleased to learn that the passenger trains are crowded daily with emigrants for the far West and gold regions of Pike's Peak.—The officers of this road are thorough railroad men, well posted upon all matters relating to the business, and, with all, are most courteous and polite gentlemen.—*St. Louis Republican.*

North Missouri Railroad.

The following gentlemen have been elected directors of this company for the ensuing year:—Isaac H. Sturgeon, James T. Sweringen, James C. Edwards, John Wickham, Ferdinand Overstolz, John Sexton, Jr., Daniel H. Donovan, Daniel A. Griffith, John A. Talley, George W. Dyers, Daniel E. Bryan, John P. Clark, John W. Minor.

Notice to Contractors.

SEALED PROPOSALS for the grading and masonry of the extension of the ROANOKE VALLEY RAILROAD, from Clarksville to Keysville, on the Richmond and Danville Railroad, will be received at the office of the Company in Clarksville until the 12th of May. The road will be thirty miles long. Plans and specifications of the work may be seen in Clarksville on and after the 5th of May. Letters of inquiry may be addressed to Henry Wood, Esq., President Roanoke Valley Railroad, Clarksville, Va., or to me at Christiansville P. O., Mecklenburg Co., Va.

B. W JONES,
Civil Engineer.

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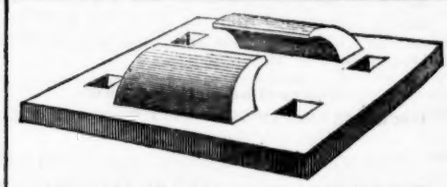

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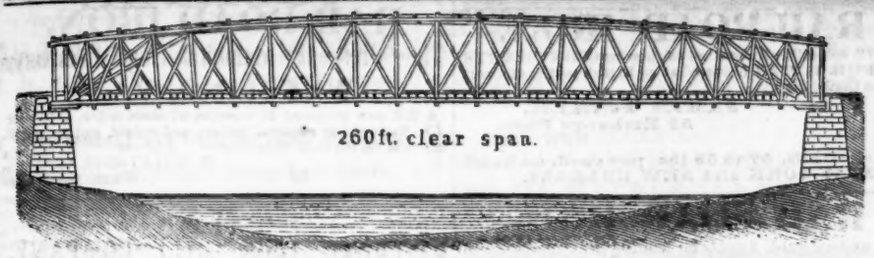

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FOR TRAVELERS,

AVAILABLE IN ALL THE PRINCIPAL CITIES OF THE WORLD.

ALSO, MERCANTILE CREDITS,

For use in EUROPE, CHINA, etc.

MORSE & CO.,

BANKERS and DEALERS in Stocks, Bonds, Exchange and Commercial Paper, on commission. No. 49 Wall street, and 41 William street, NEW YORK.

Orders for the purchase and sale of Stocks and Bonds, at the Brokers' Board, by letter or otherwise, promptly executed.

Cash advanced on sound saleable securities.

REFER TO

G. VAN BAUR & CO., N. Y. CONTINENTAL B'K, N. Y.

EUGENE THOMSON,

STOCK AUCTIONEER AND BROKER,

No. 37 William st., NEW YORK.

AUCTION SALES of STOCKS and BONDS every TUESDAY, at 12½ o'clock, at the Merchant's Exchange. RAILROAD BANK, INSURANCE and other SECURITIES bought and sold at the BROKERS' BOARD, at PRIVATE SALE, or at AUCTION. All dividends payable in New York collected, and prompt remittances made.

NONE BUT BONA FIDE QUOTATIONS FURNISHED THE PRESS. THE MARKET VALUE OF SECURITIES WILL NOT BE SUPPRESSED OR ALTERED, AND DECEPTIVE OR IRRESPONSIBLE CATALOGUES WILL NEVER BE ISSUED.

A statement showing the capital, dividend months, and last semi-annual dividend of the Banks and Insurance Companies of the city of New York, will be forwarded by mail upon application.

REFERENCES.—Messrs. Wm. and Jno. O'Brien, Thos. Denny & Co., Horace Greeley & Co, Cragin & Co, Todd & Co., J. & C. Berrian, Geo. F. Nesbitt & Co. Eugene Plunkett, Esq., (President Excelsior Ins. Co.), John G. Storm, Esq., (President Lenox Ins. Co.), L. G. Irving, Esq., (Secretary Niagara Ins. Co.), Marcus Spring, Esq., Oliver H. Lee, Esq., John H. Griscom, M. D., Rev. Edwin F. Hatfield, D. D., Rev. Theo. L. Cuyler, John Camerden, Esq., Benj. F. Manierre, Esq., New York; Otis Allen, Esq., Albany N. Y. Messrs. Gorham & Co., Providence, R. I.

A. H. DYETT,

STOCK AND BOND BROKER,

No. 43 EXCHANGE PLACE,

NEW YORK.

CHAS. A. FISHER,

Late of the firm of FISHER, DENNY & CO.,

No. 16 Exchange Place.

STOCKS and Bonds bought and sold on commission. Loans negotiated.

H. MEIGS, Jr. & SMITH,
BANKERS and BROKERS,
39 WILLIAM STREET,
(FIRST BUILDING BELOW WALL STREET.)
STOCKS and BONDS Bought and Sold on Commission.
MERCANTILE PAPER and LOANS Negotiated.
INTEREST ALLOWED ON DEPOSITS.
HENRY MEIGS, Jr. WM. ALEX. SMITH.
NEW YORK, May 11, 1858.

NEW HAVEN ARMS CO.,
MANUFACTURERS OF THE CELEBRATED
VOLCANIC
REPEATING FIRE ARMS,
COMPRISING
RIFLES, CARBINES AND PISTOLS,
WITH AMMUNITION WARRANTED WATER PROOF,
NEW HAVEN, CONN.
Depot for Sales, 267 BROADWAY, NEW YORK.
JOSEPH MERWIN, Agent.

TUBULAR RAIL.

Railroad Managers will be interested by an examination of the "TUBULAR RAIL," patented in Europe and America by STEPHENS & JENKINS, Covington, Ky. These rails have decided advantages over any rail hitherto made, among them the following:—
The "Tubular Rail" of 50 lbs. per yard has greater strength and elasticity, with the same outside surface as solid rails of 60 lbs. per yard.
Its density is greater,
Its welding nearer perfect, and
Its durability superior.
Unlike other new forms of rail, it can be put down on the same chairs, and with the same fastenings, used with common T rails.
The arrangements to manufacture are such that these rails can be furnished of any American or Foreign make.
Reference is made to the officers of all the railroads in the vicinity of Cincinnati.
Additional particulars and circulars may be had by addressing E. W. STEPHENS,
Cincinnati, Ohio.

RAILROAD IRON.
THE subscribers are prepared to contract for RAILS delivered at an English port or at a port in the United States. Also for all descriptions of
RAILROAD EQUIPMENTS
upon favorable terms.
JOHN W. HULL & CO.,
No. 41 Exchange Place, NEW YORK.

RAILROAD IRON.
The Subscribers, Agents for the Manufacturers,
ARE PREPARED TO CONTRACT FOR THE
DELIVERY OF RAILROAD IRON AT ANY PORT
in the United States or Canada, or at a shipping port in Wales.
WAINWRIGHT & TAPPAN,
Boston, June, 1851. 29 Central Wharf.

STEEL, FILES, &c.
R. GROVES & SONS,
SHEFFIELD, ENGLAND,
MANUFACTURERS of warranted Cast Steel, superior quality, for Tools, Machinery, and Engineering purposes. Single and Double Shear, Blister, German Spring and Sheet Steel of every description—also, Cast Steel Files of high reputation, especially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.
A stock of the above goods constantly on hand.
CORPORATE MARK
USE
CHAS. CONGREVE & SON, Agents,
13 Cliff street, N. Y.

RAILROAD IRON.
The Undersigned, Agents for the Manufacturers,
ARE PREPARED TO CONTRACT TO DELIVER
Free on Board at Shipping Ports in England, or
At Ports of Discharge in the United States,
RAILS OF SUPERIOR QUALITY,
And of Weight or Pattern as may be required.
VOSE, LIVINGSTON & CO.,
New York, Aug. 1, 1855. 9 South William Street.

RAILROAD IRON.
THE subscriber is prepared to enter into CONTRACTS FOR RAILS delivered at an English port or at a port in the United States.
JAMES TINKER,
54 Exchange Place,
NEW YORK.
Erie Rails, 57 to 58 lbs. per yard, on hand in NEW YORK and NEW ORLEANS.

RAILROAD IRON.
The undersigned, Agents for leading Manufacturers in
STAFFORDSHIRE AND WALES,
ARE PREPARED TO CONTRACT FOR DELIVERY
On board ship at Liverpool, or Welsh port.
C. CONGREVE & SON,
13 Cliff st., N. Y.

RAILROAD IRON.
CONTRACTS FOR RAILS,
AT A FIXED PRICE OR ON COMMISSION,
DELIVERED AT AN ENGLISH PORT,
Or at a Port in United States,
WILL BE MADE BY THE UNDERSIGNED,
THEODORE DEHON,
10 Wall st., near Broadway, New York.
500 tons T rails on hand 54 to 57 lbs. per linear yard.

RAILROAD IRON.
WELSH or Staffordshire make, delivered on board at an English port or at a port in the United States.
NORRIS & BROTHER,
6m35 BALTIMORE.
And 17 Nassau st., NEW YORK.

IRON BOILER FLUES.
Lap-Welded Boiler Flues,
1½ to 7 inches outside diameter, cut to definite length, 2 to 20 feet as required.
Wrought Iron Welded Tubes,
From ⅛ to 5 inches bore, with Screw and Socket Connections. T's, L's, Stops, Valves, Flanges, &c., &c.
MANUFACTURED AND FOR SALE BY
MORRIS, TASKER & CO.,
PASCAL IRON WORKS.
Established 1821.
Warehouse—209 South Third st.,
PHILADELPHIA.
STEPHEN MORRIS, CHAS. WHEELER, JR.,
THOS. T. TASKER, JR. STEPHEN P. M. TASKER.

RAILROAD IRON AND COMMON BARS.
THE UNDERSIGNED,
Sole Agents to Messrs. GUEST & CO.,
The Proprietors of the Dowlais Iron Works,
Near Cardiff, South Wales,
ARE duly authorized to contract for the sale of their G. L. Railroad Iron, and Common Bars, on most advantageous terms.
R. & J. MAXIN, 70 Broad st.

MORRIS & JONES & CO.,
IRON MERCHANTS,
MARKET AND SIXTEENTH STREETS,
PHILADELPHIA.
IRON AND STEEL
IN ALL THEIR VARIETIES.

BOILER PLATE,	CAR AXLES,
BOILER RIVETS,	RAILROAD IRON,
CUT NAILS and SPIKES,	PIG IRON, etc.

Having the selling agency of a number of the Rolling Mills Furnaces and Forges in this State, orders for any description of Iron can be executed.
August 16, 1854 1y33

American Railroad Iron.
THE undersigned is prepared to contract for delivery of American Railroad Iron at points on the Mississippi, Ohio and Tennessee Rivers. Rails can be furnished 27 to 30 feet long when required.
JAMES HENDERSON,
13 Cliff st., New York.

RAILROAD IRON.
The Crescent Manufacturing Company,
WHEELING, VA.,
ARE now prepared to execute, at short notice, orders for Rails of any required pattern and weight, and to re-roll old rails, on the most liberal terms Address
N. WILKINSON, Sec'y,
8tf WHEELING, VA.

THE
RAILROAD IRON MILL COMPANY,
CLEVELAND, OHIO,
MANUFACTURERS EXCLUSIVELY OF
RAILROAD IRON.
THIS is a new ROLLING MILL, having been working only eighteen months, and confined to work for roads on this line between Buffalo and Chicago in re-rolling old Rails. The capacity is Forty Tons per day. It is well situated for receiving old Rails, either by Railroad or Lake.
Orders are now solicited
From Roads in other sections of the country; and work will be made with New Iron in the heads, if desired.
Apply to
ALBERT G. SMITH,
President of the Incorporation.
February, 1858.

RAILROAD IRON.
WOOD, MORRELL & CO.,
Having leased the extensive Works of the
Cambria Iron Company,
Situated at JOHNSTOWN, CAMBRIA CO., PENNA.,
And purchased all their real estate,
ARE now prepared to execute, at short notice, orders for RAILS of any required pattern or weight, on the most liberal terms.
Philadelphia Office, { North Penna. R. R. Building, No. 407 Walnut st.

THE
ROUND OAK IRON WORKS,
STAFFORDSHIRE, ENGLAND.
Lord WARD, Proprietor.
MANUFACTURE RAILS, BOILER PLATES, SHEETS, HOOPS and BARS, of every variety of pattern.
NORRIS & BROTHER,
Agents for the United States,
12 SOUTH CHARLES STREET,
6m35 BALTIMORE.
And 17 NASSAU STREET, NEW YORK.

RAILROAD IRON.
THE RENSSELAER IRON COMPANY,
TROY, N. Y.,
OFFER Rails of their own manufacture deliverable as may be desired by purchasers.
OLD RAILS
received in exchange for new, or for re-manufacturing.
JOHN A. GRISWOLD, Agent,
TROY, N. Y.
New York Agency:
BUSSING, CROCKER & DODGE,
32 Cliff St.

LACKAWANNA
IRON AND COAL COMPANY,
SCRANTON, LUZERNE CO., PA.
BY the completion of the Delaware, Lackawanna and Western Railroad, this Company are enabled to obtain the Magnetic Ores from the most celebrated mines in New Jersey, which used in combination with their native ores, produce a quality of iron not surpassed.
These works have been greatly enlarged the past year, and are, therefore, prepared to execute orders promptly for RAILROAD IRON of any pattern and weight, Car Axles, Spikes, and Merchant Iron. They have on hand patterns for T rails, of the following weights per lineal yard, viz:—25, 30, 36, 40, 45, 50, 60, 62, and 75 lbs.
Samples of Rails and Merchant Iron may be seen at the office of the Company, 46 Exchange Place, New York.
Address J. H. SCRANTON, President,
SCRANTON, Pa.,
or THEO. STURGES, Treasurer,
46 *Exchange Place,*
40tf NEW YORK.

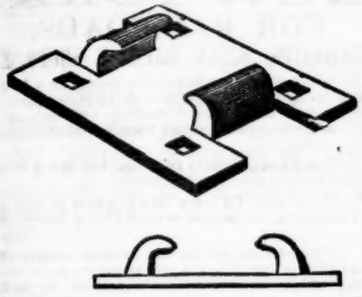
NEW YORK RAILROAD CHAIR WORKS.

J. B. GREEN & CO., Proprietors.

SUCCESSORS TO THE

New York Wrought Iron Railroad Chair Company.

Office, No. 51 Exchange Place, New York.



HAVING recently purchased, at Receiver's Sale, all the Patent Rights owned by the late *New York Wrought Iron Railroad Chair Company*, and also the entire machinery for manufacturing their improved Wrought Iron Railroad Chair, we are now fully prepared to receive and fill all orders from responsible parties, to any extent, with promptness and dispatch.

The thickness of the lips of our Chair increases through the bend, where the greatest strength is required, and diminishes towards the edge; so that a less weight of metal may be used, and a strength acquired equal, if not superior, to that of a heavier Chair of uniform thickness.

We invite the attention of parties wishing the best Wrought Iron Chair now in market, to our works for a supply; believing they combine qualities superior to any others now manufactured.

The Chairs weigh from seven and a-half to fifteen pounds, according to the thickness of the Iron and size of the Chair. To enable us to give you a perfect fit, it will be necessary always to send a section of the Rail. We cannot undertake to make Chairs without a proper pattern, as it is impossible to make a perfect fitting Chair from a drawing.

Our manufacture of Chairs are used on a large number of Roads, of which the following list comprises some of them, viz

Galena and Chicago Union Railroad Company,
North Carolina Railroad Company,
New Jersey Central Railroad Company,
Panama Railroad Company,
Buffalo and State Line Railroad Company,
New York and New Haven Railroad Company.

K. JESUP & CO., 44 Exchange York, are the only parties authorized to act

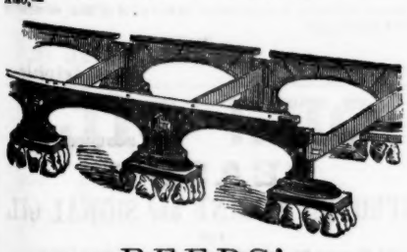
BEERS' CAST-IRON ENDLESS RAIL,

FOR CITY RAILROAD;

Now being laid in Philadelphia and elsewhere;

THIS road is exclusively of cast iron, without tie, stringpiece, or chair; Rail 85 to 100 lbs. per yard; Durability four fold over the present roads, with 65 lbs. groove rail: And with a saving on first cost; effecting a reduction in current yearly repairs, and relays, of at least $1,000 per mile.

Also,—



BEERS' ELASTIC IRON RAILWAY,

FOR LOCOMOTIVE USE;

This road can be built and equipped, without additional cost over a road with 56 lbs. T rail; saving not less than 60 per cent. on motive power, 50 per cent. on dead weight, and 80 per cent. on repairs of way; thus reducing the yearly expenses from $1 500, to $2,000, per mile. For full particulars, with drawings, relating to both roads, see a recent Treatise, entitled Railroads, their construction and management, with the remedy, from twenty-five years experience, by S. A. BEERS, Civil Engineer, BROOKLYN, N. Y. Price 50 cts, Address the author.

The undersigned is prepared to construct, by contract, the above roads, in any part of the U. S. or Europe, at the shortest notice, being aided by a staff of contractors of the most extensive experience.

S. A. BEERS.

GEO. M. FREEMAN,

SUCCESSOR TO

PRATT & FREEMAN,

PHILADELPHIA

RAILWAY SUPPLY AGENCY,

No. 123 WALNUT STREET,

PHILADELPHIA.

Railroad Materials, Locomotive and Car Findings,

MACHINERY AND MACHINISTS' TOOLS,

MINERS' TOOLS, ETC.

☞ COTTON WASTE. ☜

WHITE AND YELLOW CAR GREASE,

LOCOMOTIVE BRASS WORK,

Baggage Checks, Barrows, etc., etc.,

RAILROAD LANTERNS, SIGNAL LIGHTS,

STEAM GAUGES, COCKS AND WHISTLES,

INDIA RUBBER HOSE PACKINGS, ETC.

LANTERNS OF ALL DESCRIPTIONS,

ENGINE, STATION, AND SIGNAL BELLS,

☞ Superior Car Upholstery, etc. ☜

AGENCY OF THE KEROSENE OIL COMPANY.

☞ Orders solicited, promptly filled, and forwarded with despatch and care *at the manufacturers' lowest prices.*

HOLT, GILSON & CO.,

MANUFACTURERS AND DEALERS

IN

RAILROAD & STEAMBOAT

SUPPLIES,

5 WATER ST., BOSTON.

LOCOMOTIVES AND CARS.

Rails, Sleepers, Chairs, Spikes, Wheels, Axles and Tires.

BOILER TUBES AND FELTING.

BOLTS, NUTS & WASHERS.

CAR, SHIP AND BRIDGE BOLTS.

Locomotive, Hand and Ship Lanterns; Car Trimmings of all descriptions. Steam and Water Gauges; Signal Bells, etc., etc.

AGENTS FOR CAR HEAD LININGS.

Sole Agents for TOMEY'S celebrated GAUGE GLASSES, and PACKER'S IMPROVED RATCHET DRILL.

Orders filled with **despatch** and at the **lowest** prices.

RAILROAD SUPPLIES.

GILBERT, MURDOCK & CO.,

No. 9 NASSAU STREET,

NEW YORK,

ARE agents for, and prepared to furnish at manufacturers' prices,

RAILROAD IRON,

LOCOMOTIVE ENGINES,

RAILROAD CARS,

CAR WHEELS,

AXLES, CHAIRS,

SPIKES, TOOLS,

ETC., ETC.

All inquiries in reference to the above articles will receive immediate attention.

NEW YORK, January, 1859.

S. B. BOWLES,

MANUFACTURER AND DEALER IN

RAILROAD SUPPLIES,

No. 12 GOLD STREET,

(Between PLATT and MAIDEN LANE,)

NEW YORK.

RAILROAD SUPPLIES.

WILLIAMS & PAGE,

No. 44 Water, between Congress and Kilby Streets,

Boston, Mass.

Iron Rails, Chairs, & Spikes,

FREIGHT AND COAL CARS,

(on hand or made at short notice,)

Wheels and Axles of all kinds,

LOWMOOR, AMES', BOWLING AND NASHUA TIRES,

IRON AND STEEL,

Of all kinds for Shops and Tracks,

Car Trimmings, Paints, Oil, Varnish, Car and Switch Locks, Ventilators, Lanterns, Head-Lights, Gauges, Rubber Springs, Chairs, Hose and Belting, Ash, Pine and other Timber, and ALL MATERIALS USED in Equipment and Repairs of Railroads, Engines and Cars, *at lowest prices.*

THOS. S. WILLIAMS, late Sup't Boston & Maine R. R.

PHILIP S. PAGE, late PAGE, ALDEN & Co.

REFERENCES.

JAMES HAYWARD, President Boston and Maine R. R.
Capt. WM. H. SWIFT, Boston.
LAWRENCE, STONE & Co., do.
PHELPS, DODGE & Co., N. Y.
COOPER, HEWITT & Co., do.
REEVES, BUCK & Co., Phila.
E. S. CHESBROUGH, Chicago.
S. M. FELTON, Pres't Phila., W. & B. R. R.

A. BRIDGES & CO.,

MANUFACTURERS AND DEALERS IN

RAILROAD AND CAR

FINDINGS,

OF EVERY DESCRIPTION,

64 COURTLANDT ST., NEW YORK.

RAILROAD AXLES, WHEELS AND CHAIRS,

SPIKES, BOLTS,

NUTS, WASHERS,

CAR, SHIP AND BRIDGE BOLTS.

IRON FORGINGS OF VARIOUS KINDS, ETC., ETC.

STEEL AND RUBBER SPRINGS,

LOCOMOTIVE AND HAND LANTERNS,

PORTABLE FORGES AND JACK SCREWS,

COTTON DUCK FOR CAR COVERS,

BRASS AND SILVER TRIMMINGS.

Also, Sole Agents for the Manufacturers of Car Head Linings.

Orders for the purchase of goods on commission, aside from our regular business, respectfully solicited.

ALBERT BRIDGES. JOEL C. LANE.

MORRIS K. JESUP. JOHN KENNEDY. GILSAD A. SMITH.

M. K. JESUP & CO.,

RAILWAY AGENTS AND BANKERS,

44 EXCHANGE PLACE,

NEW YORK,

AGENTS FOR THE SALE OF

FOREIGN AND AMERICAN RAILROAD IRON

AND ALL MATERIALS NECESSARY FOR THE

Construction, Equipment & Operating of Railways.

RAILWAY AND OTHER SECURITIES

BOUGHT AND SOLD

Either privately or at the Board of Brokers.

A. S. & A. G. WHITON

72 PINE ST., NEW YORK,

DEALERS IN

RAILROAD IRON,

CHAIRS AND SPIKES,

LOCOMOTIVES,

PASSENGER AND FREIGHT CARS.

MANUFACTURERS' AGENTS

FOR Adler's Iron Turn Tables, Dimpfel's Patent Blower, Gardiner's Volute Car Springs and

RAILWAY SUPPLIES GENERALLY.

ALSO

NEGOTIATORS OF SECURITIES.

Railroad Iron.

THE undersigned have American and Foreign Railroad Iron for sale, deliverable in New York and other markets.

CASWELL & PERKINS,
Brokers, 69 Wall st.

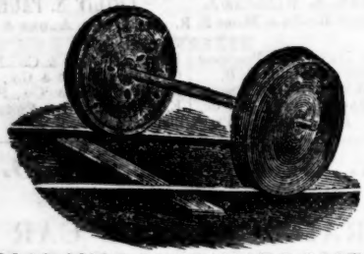
New York, January 1, 1859.

Boston Locomotive Works,

Late Hinkley & Drury,
No. 380 HARRISON AVENUE,
BOSTON.

LOCOMOTIVE AND STATIONARY
STEAM ENGINES;
BOILERS;
Iron, Brass, Copper and Composition Castings;
COPPERSMITH'S WORK,
AND ALL KINDS OF RAILROAD MACHINERY
FURNISHED AT SHORT NOTICE.

ALSO



VAN KURAN'S IMPROVED
RAILROAD WHEEL,
PATENTED MAY 1, 1849.
Manufactured under the Personal Superintendence of the PATENTEE, as above.

ORDERS for any quantity of Wheels executed with dispatch, and Wheels and Axles fitted in the very best manner, and at the lowest rates.

Address DANIEL F. CHILD,
Treasurer, Boston.

THE JERSEY CITY
LOCOMOTIVE WORKS,

SUCCESSORS TO
BREESE, KNEELAND & CO.,
JERSEY CITY, N. J.

MANUFACTURE **COAL or WOOD** BURNING **LOCOMOTIVES, Steam Fire Engines,** Portable **ENGINES** and **BOILERS, Cast Steel SPRINGS** for Engines, Tenders, Passenger or Freight Cars; **SHAFTING** and **ALL KINDS of RAILWAY MACHINERY.**

They also furnish to order TYRES, DRIVING WHEELS and AXLES, CASTINGS and FORGINGS.

Boiler Work furnished with dispatch.

G. M. WHEELER, PRESIDENT. C. KNEELAND, SEC'Y & TREAS'R.

W. G. HAMILTON, V. P. & Eng'r.

OFFICE IN NEW YORK—49 WILLIAM ST.

UNION WORKS, BALTIMORE.
POOLE & HUNT,
Iron Founders and General Machinists,

ARE prepared to fill at short notice and of best materials and workmanship, orders for

Steam Engines of any Size.

PLATE CAR WHEELS and CHILLED TIRES, equal to any produced in the country.
WHEELS AND AXLES fitted for use.
HYDRAULIC PRESSES for expressing Oils and for other purposes.
MACHINERY of the most approved construction for Flouring and Saw Mills.
GASHOLDERS of any size, and Machinery and Castings of all kinds for Gas Works.
STEAM BOILERS and WATER TANKS of any size or description. SHAFTING, PULLIES and HANGERS.

THE ROGERS
Locomotive & Machine
WORKS,

SUCCESSORS TO
ROGERS, KETCHUM & GROSVENOR,
PATERSON, N. J.,

HAVING extensive facilities, are now prepared to furnish promptly of the best and most improved description, either
COAL OR WOOD BURNING
LOCOMOTIVE ENGINES
AND OTHER VARIETIES OF
RAILROAD MACHINERY.

J. S. ROGERS, *Pres't,*
WM. S. HUDSON, *Su'pt,* } Paterson, N. J.
M. K. JESUP, *Vice Pres't.*
L. P. STARR, *Secr'y and Treas'r.*
44 Exchange Place, New York.

Locomotive Engines.
DANFORTH, COOK & CO.,
PATERSON, N. J.,

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention. 1y49

THE SCHENECTADY
LOCOMOTIVE WORKS,
SCHENECTADY, N. Y.,

HAVING large facilities, are prepared to receive and execute orders for

LOCOMOTIVE ENGINES AND TENDERS,

either for burning **WOOD** or **COAL,** with promptness and dispatch.

BRASS and IRON CASTINGS; LOCOMOTIVE TYRES welded and blocked to exact sizes, and every thing connected with the building or repairing of Locomotives furnished on short notice.

These Works being located on the New York Central Railroad, near the centre of the State, possess superior facilities for forwarding their work to any part of the country, without delay.

JOHN ELLIS, Agent.
WALTER McQUEEN, Superintendent.

RICHARD NORRIS. HENRY LATIMER NORRIS.
RICHARD NORRIS & SON,
LOCOMOTIVE STEAM ENGINE
BUILDERS,
SEVENTEENTH STREET, ABOVE CALLOWHILL,
PHILADELPHIA,
ENGAGED EXCLUSIVELY IN THE MANUFACTURE OF
LOCOMOTIVES,
RAILWAY TOOLS AND
MACHINERY.

MANUFACTURE to order, Locomotives of any Arrangement, Weight or Capacity. In Design, Material and Workmanship, the Locomotives produced at these Works, are equal to, and not excelled by any.

WEST POINT FOUNDRY.

R. P. PARROT, Lessee.
Manufacturer of Marine and Stationary
ENGINES,
Sugar Mills, Saw Mills, Iron Bridges, Cannon,
WATER PIPES, BOILERS, IRON BUILDINGS,
CASTINGS & FORGINGS OF ALL KINDS.
WM. KEMBLE, } Agents
CHAS. J. NOURSE, } 26 Broadway.

MACHINERY OIL.
REFINED NEAT'S FOOT OIL
WARRANTED NOT TO GUM

AND equal in every respect to the best SPERM OIL for all kinds of machinery use.

PETER COOPER,
17 Burling Slip,
New York.

THE IMPERIAL
LUBRICATING OIL,

MANUFACTURED BY
J. C. HULL & SONS,
(Formerly W. HULL & SON,)
108, 110, 112, 114, 116 and 118 Cliff st.,
NEW YORK.
FOR RAILROADS,
STEAMSHIPS, MILLS, MACHINE SHOPS, ETC.

THIS OIL having been before the public for a long time, and having been extensively used in different parts of the country, and on each occasion meeting with unqualified approval, renders the manufacturers confident when making the following claims:—

1st. Its first **cost** is vastly **less** than that of any Oil in use, of known merit or acknowledged worth.

2nd. It will **not in any way gum** or clog up any journal or bearing, all the gum in the Oil being entirely decomposed.

3rd. It will keep all journals and bearings **cool, clean** and **bright** as new, thus not only saving wear and tear, but **saving also** no inconsiderable amount of **motive power.**

4th. It is fully as **durable** as any Oil in the market, and consumers are invited to make their experiments on such journals as are inclined to heat up.

5th. It is sweet and clean, and entirely **free from all odor or unpleasant smell.**

Also,—
J. C. HULL & SONS'
REFINED BURNING OIL.

Buyers are requested to give this **OIL** a trial, as it is believed that it will be found the
CHEAPEST, CLEANEST AND BEST
OIL FOR BURNING,
(all things considered), in the market.

CERTIFICATES from a large number of **Railroad** and **Steamboat officers,** also, prominent Manufacturers and Machine Builders, can be seen by application as above.

TAW & BEERS,

DEALERS IN
Sperm, Whale and Elephant Oils,
Adamantine Car and other Candles,
AND MANUFACTURERS OF
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